JUN 15 1918

This Issue Exceeds 66,000 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 70, No. 24 | 535 North Dearborn Street, CHICAGO, ILL. | JUNE 15, 1918

CONTENTS AND DIGEST

The Organization of the Medical Profession for War: Presidential Address. Arthur Dean Bevan, M.D., Chicago 1805

Organization and activities of the Association. Demands made by the war. Who represents the medical profession? Response of the profession. The supply of medical men. Expansion of the Medical Department of the Army. Health during mobilization. The venereal problem. Necessity of eliminating drink. The nurses. Reconstruction and Re-education. Drugs and chemicals. Health of the civil population. One hundred per cent. loyalty. Our attitude toward the German medical profession. Our single purpose as a nation.

The Effect of Tyramin on Circulatory Failure During Infections and During or After Operations. A. W. Hewlett, M.D., and W. E. Kay, M.D., San Francisco 1810

Action of tyramin hydrochlorid on the normal circulation of man. Its clinical use. Observations on the use of tyramin in the circulatory failures of infectious diseases, and during or after operations. Failure of tyramin to abort asthmatic paroxysms.

A Bacterial Toxin as the Cause of Retinal Hemorrhage. F. Park Lewis, M.D., Buffalo.....1813

Report of a case due to Streptococcus hemolyticus, a cause not heretofore recognized. Influence of bacterial poisons on hemorrhage.

Abnormal Reflexes Caused by Morphin Poisoning in a Tabetic. Michael Osnato, M.D., New York.....1815

History of case and results of examination. Comment.

Simple Methods for Prolonging the Viability of Meningococcus Cultures. Dolores E. Bradley, M.A., Berkeley, Calif......1816

Nonviability of meningococcus cultures heretofore. Literature of modifications to avoid this. Reports of the author's experiments.

(Continued on next page)

PROCEEDINGS OF THE CHICAGO SESSION

Minutes of the House of Delegates..1831
The Opening Meeting.....1860

MILITARY MEDICINE AND SURGERY

The Army in Relation to the Tuberculosis Problem. George E. Bushnell, M.D., Washington, D. C......1821

War Edema (Kriegsoedem). F. S. Parks, M.B. (Tor.), Toronto.....1826

The Predisposition of Streptococcus Carriers to the Complications of Measles: Results of Separation of Carriers from Noncarriers at a Base Hospital. Robert L. Levy, M.D., and H. L. Alexander, M.D., Camp Zachary Taylor, Louisville, Ky......1827

MEDICAL MOBILIZATION AND THE WAR 1868

ENTERED AS SECOND-CLASS MATTER, JUNE 25, 1885, AT THE POSTOFFICE AT CHICAGO, ILLINOIS, UNDER ACT OF MARCH 3, 1879.
COPYRIGHT, 1918, BY THE AMERICAN MEDICAL ASSOCIATION.

SAUNDERS

Bulletin

EXAMINING RECRUITS

We are told that Norris and Landis' "Chest Diseases and Physical Diagnosis" is proving very helpful in determining the physical fitness of army and navy recruits.

Just reprinted. Cloth, $7.00 net

JUST ISSUED

Koll's Diseases of the Male Urethra

Gonorrheal urethritis is a condition that every physician, whether general practitioner or specialist, is called upon to treat frequently. Dr. Koll gives you here a clear, concise, and simple treatise, rendered additionally helpful by the extensive use of original illustrations taken from the author's own clinic. He gives full consideration of every aspect of gonorrhea—anatomy of the organs involved, bacteriology, pathology (here illustrated for the first time in any text), symptomatology, diagnosis, and treatment. The section on treatment goes so thoroughly into active, medicinal, and local therapy (including the use of albargin and astringents) that any practitioner can treat the condition without referring his cases to a specialist. In addition there are instructive chapter on stricture of the urethra, non-gonorrheal urethritis, urethrorrhea, prostatorrhea, and spermatorrhea, tumors, sexual impotence, sterility and verumontanitis and utriculitis.

By IRVIN S. KOLL, M.D., Professor of Genito-Urinary Diseases, Post-Graduate Hospital and Medical School, Chicago. Octavo of 150 pages, with many illustrations, several in colors.

SAUNDERS, *Publishers* **See Pages 3, 4, 5**

CONTENTS AND DIGEST— Concluded

Comparative value of brain cultures for meningococci cultivation and preservation.

Epidemic of German Measles in a City Adjacent to an Army Cantonment, and Its Probable Relation Thereto. J. C. Geiger, M.D., Lonoke, Ark..1818

Disregard of German measles as a factor in disease incidence among troops. Observations on an epidemic in North Little Rock and Camp Pike, Ark. Special features. Epidemiology. Symptoms and complications. Control.

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Aids in the Use of Dakin-Carrel Treatment. Max Bornstein, M.D., Camp Grant, Rockford, Ill.....1820

Suction Drainage of Suprapubic Bladder Wounds: Description of a New Pump. Charles W. Bethune, M.D., Buffalo.....1820

EDITORIALS

The Food of the Army.....1864

Liberal allowance of the United States ration.

Corn in the War Time Dietary.....1865

A substitute for wheat, when suitably cooked.

Factors in the Regeneration of Blood 1865

Influence of diet and the products of protein catabolism.

Glycuresis Versus Glycosuria.....1866

Preference for the term "glycuresis" as pointing to an increase rather than a new appearance of sugar in the urine.

CURRENT COMMENT

The Chicago Session.....1867

A historic medical military patriotic meeting.

Necessity for Care in Administering Arsphenamin.....1867

Risks that should be avoided.

Morphin and Reaction Time.....1868

Psychologic effect of small and of ordinary doses.

MEDICAL NEWS

GEORGIA: State Association Meeting — The Venereal Campaign — Personal 1872

IDAHO: Reciprocal Relations Extended....1872

ILLINOIS: Higher Requirements in Illinois — Diphtheria at Camp — Northwestern Alumni Elect Officers — Course for Community Nurses. Chicago: Venereal Disease Hospital Opened — Investigation of Irregulars..1872

KENTUCKY: Hospital Unit Called — Officers Elected — Personal 1872

MARYLAND: One Hundred and Forty-Three Nurses Qualify—Personal.....1872

MASSACHUSETTS: Officers Elected — Harvard Medical Alumni Association 1873

NEW YORK: New York City: Surgeon-General Gorgas Addresses Medical Faculty — Personal — Program of War Camp Community Service — Women Demand Control of Medical College — Threatened Dissolution of Alliance Between Hospital and University 1873

PENNSYLVANIA: Philadelphia: Fly Campaign — University Chair Endowed—Personal...1873

TENNESSEE: District Association Meetings — Personal 1873

CANADA: Personal 1874

GENERAL: Railway Surgeons Hold Meeting — New Section on Medicines — Personal — Antityphoid Inoculations Free—Army School of Nursing — Optical Industry Organized for War Service — Bequests and Donations —Mailing of Liquids and Oils in Glass.1874

FOREIGN: Japanese Mission to Study Typhus—Carnegie Hero Prizes for Civilians—Scabies at Amsterdam — Dogs Trained as Guides for the Blind — A New Enslaving Drug — American Poets' Ophthalmic Ambulance — Premiums for Breast Feeding — Public Warning Against Venereal Diseases in the Netherlands — Death of Forlanini — Discussion of Venereal Diseases in the German Senate 1874

SOUTH AND CENTRAL AMERICA, MEXICO AND WEST INDIES: Adulteration of Drugs — Deaths in the Profession Elsewhere....1875

CUBA LETTER 1875

LONDON LETTER 1876

PARIS LETTER 1876

MARRIAGES 1877

DEATHS 1878

CORRESPONDENCE 1879

Serum Diagnosis of Syphilis.

Bárány Chair Tests and Flying Ability.

"Protection Against Lice."

Schools of Physical Education for Reconstruction Aides and the Medical Profession.

Careless Methods in Fitting Artificial Eyes.

Need of Campaign to Arouse Interest in Trained Nursing.

QUERIES AND MINOR NOTES 1882

Dichloramin-T.

"The Honor Roll."

Cotarnin Hydrochlorid.

Instruction Books for Medical Officers; Training Camps.

Eligibility for Service in the Medical Reserve Corps.

When to Wear Uniforms.

Service at Base Hospitals.

BOOK NOTICES 1883

MEDICOLEGAL

Right to Recover Money Extorted to Protect Reputation — Itemizing of Account and Application of Payments 1884

SOCIETY PROCEEDINGS 1885

Coming Meetings.

The American Gynecological Society.

Association of American Physicians.

Missouri State Medical Association.

CURRENT MEDICAL LITERATURE

American Medical Journals

Treatment of Fracture of Spine—Surgery of Spastic Paralysis—Effects of Splenectomy.. 1890

Value of Pyloric Exclusion in Ulcers—Immediate Jejunal Feeding After Gastro-Enterostomy — Developmental Reconstruction of Colon—Study of Hypogastric Artery —Blood serum as Vasoconstrictor—Platelet Count and Vasoconstriction—Effect of Small Breakfast on Heat Production.....1891

Metabolism in Malarial Fever—Ethylhydrocuprein in Treatment of Pneumonia—Circulation During Convalescence—Mitochondria in Red Cells in Anemia—Circulation in Man in Head Down Position 1892

Influence of Forced Breathing on Circulation —Standardization of Pituitary Extract—Effect of Lactic Acid on Respiratory Center —Cutaneous Irritation by Mustard Oil as Influenced by Various Solvents — Composition of Oil of Chenopodium—Pharmacologic Study of Benzyl Alcohol.....1893

Urine in Diabetes Mellitus — Usefulness of Blood Chemical Methods in Diagnosis of Cardiac and Renal Disease.....1894

Foreign Medical Journals

Destruction of Nits of Clothes Louse—Prognosis in War Nephritis — Partial Hereditary Anonychia 1895

Agglutination Method of Diagnosis — Septic Phlebitis Due to Gunshot Wounds—Cerebrospinal Fever—Acriflavine and Proflavine—Brilliant Green and Gunshot Wounds..1896

Cancer of Lung—Malarial Hemiplegia—Rachitis in Soldiers — Primary Suture of War Wounds 1897

War Wounds of the Bladder—Surgical Repair of Posterior Urethra—Transfusion of Venous Blood—Saline Infusion with Gum Acacia in Treatment of Shock — Elimination by the Kidneys in Health and Disease—Sensitized Autovaccines 1898

Treatment of Scars on the Face—Fate of Projectiles Left in the Mediastinum—Functional Value of Stumps—Prevertebral Projectiles—The Laws of the Healing of Wounds—War Wounds of the Spleen—Divulsion in Treatment of Anal Fistula.....1899

The Painful Cystic Point in Typhoid in Children—Influence of Roentgen Rays on Callus Production—Cancer on Bird's Claw—Vacuum Cataract Extraction—Rabies at Buenos Aires —Impressions of Surgery in the United States—Athletics and Social Insurance at Buenos Aires—Agglutination of the Blood Corpuscles as Sign of Pregnancy.....1900

TONICS AND SEDATIVES..... ....Adv. Page 20

CARREL & DEHELLY'S Treatment of Infected Wounds *Now Ready*

Translated by Capt. H. Child, R.A.M.C.(T.). With Introduction by Surgeon General Sir Anthony Bowlby, K.C.M.G., F.R.C.S.

12 mo. Cloth, 280 pages. 78 Illustrations. $2.00 net.

PAUL B. HOEBER, Publisher 67-69 East 59th Street, New York

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 70, No. 24 CHICAGO, ILLINOIS JUNE 15, 1918

THE ORGANIZATION OF THE MEDICAL PROFESSION FOR WAR

PRESIDENTIAL ADDRESS *

ARTHUR DEAN BEVAN, M.D.

CHICAGO

I feel greatly honored by the election to the position of President of the American Medical Association. I recognize not only the honor but also the responsibility of assuming the leadership of the organized medical profession of the country at this time. The war has made unusual and exacting demands on us. The government and the people are looking to us to furnish in this great emergency not only the necessary number of medical men for the Army and Navy, but also the highest degree of medical service and efficiency. This is proving to be a war not simply between well organized armies but between efficiently organized nations. It is now clear that in order to win the war we must organize the entire nation in such a way that every man and every woman must become a useful part of a great and powerful national military machine. No part of such a great national organization is more important than the medical profession, and on this, the opening evening of this great war meeting of American physicians, it is my purpose to address you on the organization of the medical profession for war.

ORGANIZATION OF THE ASSOCIATION

There are in the United States more than 145,000 men and women licensed in the various states to practice medicine. Of these more than 81,000 are members of the American Medical Association, and more than 45,000 are Fellows. The American Medical Association is organized along the most democratic and representative lines. No profession in this or in any other country is more thoroughly and efficiently organized than the American Medical Association. The unit of the organization is the county medical society. It is the avowed purpose of the county society to receive into its membership all reputable practitioners who are legally qualified to practice medicine. The county medical society is a democratic organization. It is not, nor is it intended to be, a select and exclusive medical society. Its functions are educational and social. It exists for the purpose of using the united efforts of the physicians of that county for the benefit of the people and for the education of its members. Any county society that is not democratic and representative is not fulfilling its proper function. By virtue of membership in the county society the physician becomes a member of his state medical society and of the national society — the American Medical Association.

During the first half century of its existence, the American Medical Association was a rather loosely organized body. It was founded for the special purpose of elevating the standards of medical education and practice. Its ideals were high, and it accomplished a great deal of good. Not, however, until its reorganization in 1901 on broad democratic and representative lines, did it become in fact the organized medical profession of the country. The American Medical Association is not sectarian, but is broad enough to include in its membership all licensed physicians who honorably practice scientific medicine.

ACTIVITIES OF THE ASSOCIATION

Since its reorganization, the American Medical Association has had a record of splendid achievement. It has succeeded in elevating the standards of medical education in this country, which had been uneven and unsatisfactory, to a position where they are as high as those in any other country. It has improved the character of medical instruction until we can now state without fear of contradiction that the medical student can obtain as thorough and complete an education here in America as anywhere in the world.

Moreover, the American Medical Association has accomplished much through its Council on Medical Education in cooperation with THE JOURNAL. Through these departments it has been of great service in creating a register of licensed practitioners. A register of medical students is now kept so that the Association possesses a full record of the medical career of each licensed practitioner and medical student.

The American Medical Association and its constituent state medical associations have succeeded in securing improvements in the medical practice acts of most of our states protecting the people against ignorant and inefficient practitioners and securing better public health service.

The American Medical Association has through its Council on Pharmacy and Chemistry done outstanding, pioneer work against the unscientific and unnecessary use of drugs and against the prescribing of secret formulas and "quack" medicines. It has done more than any other medical organization to place drug therapy on a sound and scientific basis.

THE JOURNAL of the American Medical Association has become the largest and most influential medical periodical in the world. It has a circulation of more than 65,000 copies, and in the best sense it is the instrument that keeps the profession in touch with the affairs of the Association, with scientific medicine, and through well-prepared abstracts with the current medical literature of the world.

* President's address before the American Medical Association at the Sixty-Ninth Annual Session, Chicago, June, 1918.

It is now more important than ever that these admirable activities of the Association should be continued and amplified, and that steps should be taken to meet the new problems that will confront the Association after the war. These will undoubtedly include the stimulation of medical research, the development of an adequate American medical literature, the creation of postgraduate medical facilities not only for our own medical men, but also for the medical men from other countries, who will find here in our great democracy a welcome and opportunities in medical instruction and medical research second to none. But these things can and must wait on the one great problem that confronts us now, *the winning of the war.*

DEMANDS MADE BY THE WAR

The problem that confronts the country in this war, as far as the development of the medical departments of the United States Army, Navy and Public Health Service are concerned, can briefly be stated in this way: If we raise an army of 3,000,000 men, 10 per cent. of this number will be in the medical department; that is, 300,000 officers and men, and of these at least 25,000 must be qualified physicians and surgeons. If we raise an army of 5,000,000 men, the medical department will contain 500,000 officers and men, and it will be necessary to have between 35,000 and 40,000 qualified medical men. At present there are more than 200,000 men authorized in the Medical Department of the Army. Of these, somewhere from 20,000 to 25,000 will be medical officers, and the balance enlisted men and nurses. If we create a navy of 500,000 we shall need 3,500 medical men. If we create a navy of a million, which is probable, we shall need 7,000 medical men. The need of the Public Health Service, although more modest, will be considerable, and must be met. No one can prophesy the extent or duration of the war, but we can say with certainty that it is the purpose of the American people to create and maintain the largest and most efficient navy in the world and to organize and train and equip an army large enough to win the war.

WHO REPRESENTS THE MEDICAL PROFESSION?

The efficient organization of the medical profession of this country for war is being splendidly accomplished by the cooperation between the Medical Departments of the Army and Navy and the organized profession, the American Medical Association. It has been unfortunate that a medical advisory committee which is not in any way representative or democratic, and which has no proper function in the efficient organization of the medical profession for war, should have been called into existence. A small coterie of specialists, of gynecologists and surgeons, no matter how eminent or how successful they may have been as promoters and exploiters of special medical societies, can in no way in this great emergency and in this great democracy represent the medical profession.

RESPONSE OF THE PROFESSION

At the outbreak of the war, the American Medical Association offered to the United States government its entire organization and machinery to assist in the enormous expansion that became necessary. Through the officers of the county societies, the state societies, and particularly through the columns of THE JOURNAL, the needs of the government were placed before the organized profession of the country, and they responded splendidly to the call. So far 25,000 have gone into the Medical Departments of the Army and Navy. No other profession or calling has responded more promptly to the needs of the country than the medical profession. The great bulk of the medical men who have gone into the government services were members of the American Medical Association.

The demands made on the medical profession by the war are so great that it is evident that in order to secure the necessary number of medical men for the government, and at the same time prevent hardships in some communities and institutions, it is necessary to organize the entire profession of the country in a systematic way. It therefore became necessary for the American Medical Association, acting with the Surgeon-General's Office, to take a census of the available medical men in the United States in each state, in each county, in each medical school and in each hospital, and to attempt to secure from each one of these different units at least 20 per cent. of the medical men. This plan will enable the government to secure the necessary number of medical officers for an army of 5,000,000 men or more, and a navy of 1,000,000 without any great hardship to any community or to any institution. It is evident that a plan of this kind is absolutely essential, and it is the purpose of the American Medical Association through its county and state societies and its national organization to create such a systematic classification and secure the adoption of this plan. Such a plan means a voluntary draft of the medical profession by the profession itself. The medical profession will supply the men needed by the government. No conscription, no compulsion will be required.

THE HONOR ROLL

The survey has been completed, and was published in THE JOURNAL, June 1. It gives the honor roll of the men who have already gone into the service from each county and state society. It gives the number of men under 45 and under 55 years of age in each county and the percentage of men who have volunteered. Up to this date about 15 per cent. of the total number of men have volunteered. The Surgeon-General of the Army has called for 5,000 more medical officers, and the Surgeon-General of the Navy needs about 2,000. It becomes necessary for us to raise the total number of medical officers this year to about 30,000, which means nearly 22 per cent. of the medical men of the country.

As President of the Association, I desire to call the serious consideration of each county medical society to the fact that in order to do its duty it should furnish at least 20 per cent. of its members for military service. This situation should be met fully and promptly by each county medical society. In order to prevent hardships to communities due to lack of medical service, and in order to prevent the crippling of medical schools and hospitals, no community and no institution, unless it is clearly oversupplied, should be allowed to furnish more than 50 per cent. of its medical men. As far as possible the quota from each county should be filled by men under 45 years of age. If this is not possible, men up to 55 will be taken. As fast as each county fills its quota of 20 per cent.—and this should be done by each county within the next few months—the secretary of the county medical society should notify the secretary of the state medical association and the secretary of the American Medical Association of that fact.

THE SUPPLY OF MEDICAL MEN

Profiting by the experience of the great nations that entered the war in 1914, the medical profession of the country, and the government, have very wisely taken steps to prevent the disruption of our medical schools, and I am glad to say that our national government adopted the suggestion made by the Surgeon-General to allow medical students to be commissioned in the enlisted Medical Reserve Corps and have them detailed to complete their medical education and to serve a year in a hospital as interns before they are called into active service. This was to apply to the men who have already studied medicine in the medical school proper for one year. In order to insure the further supply of medical students to meet the demands of a great and prolonged war, the effort is being made to have this apply also to the men who are taking their premedical work in universities. It is necessary to have these men continue their medical studies in order to insure the continued supply and the necessary number of medical men.

The United States is the only great reservoir of medical men in the world. The medical professions of Great Britain and France, of Italy and Belgium, and this is probably more true of enemy countries, have been well nigh exhausted by this war. They delayed making plans for a continued supply, their medical schools became disrupted, and they are already suffering for medical men in their armies and in their civil life. Major Horace B. Arnold, chairman of the Council on Medical Education, who is on active duty in the Surgeon-General's Office looking after the problem on medical education for General Gorgas, has this matter now under consideration, and it is to be hoped that he will succeed in securing rulings that will enable our premedical students to continue their medical courses. If the need for medical men becomes very great we can adopt a continuous session and graduate men in three years. The senior students in the medical schools should have special courses in military surgery. I would recommend that if possible one or two competent medical officers be assigned to each medical school for this purpose.

EXPANSION OF THE MEDICAL DEPARTMENT

The enormous problem that was presented to the Surgeon-General's Office by the war may be realized in a striking way by the statement that the development of an adequate medical department for 3,000,000 men means that less than 2 per cent. of such a department is represented by the men in the service at the time of the outbreak of the war — that more than 98 per cent. of the men must be taken from civil life, and must be given the necessary military training to fit them for active duty in the field. This enormous problem is being adequately and splendidly met. A small medical department which existed before the war has formed the leaven necessary to change a great body of physicians coming from civil life into efficient military surgeons and efficient hospital and ambulance units. Special training camps for medical men were formed at Fort Riley, Fort Benjamin Harrison and Fort Oglethorpe. Gradually the work done by these different camps is being concentrated at Fort Oglethorpe, where an enormous military medical university of 40,000 officers and men is being created. Here the enlisted men will receive their necessary training in small and large units, and the medical officers will receive their necessary military instruction and instruction in such medical work as will peculiarly fit them for their military duties.

GENERAL GORGAS

Standing out prominently in the development of the great Medical Department of the Army is a great figure, the figure of Surgeon-General Gorgas, who in a very quiet way has demonstrated again the fact that he is one of the greatest organizers in sanitation and in military medicine and surgery. It is most fortunate that in this emergency work of the medical department it was found in such strong and capable hands. General Gorgas is one of the great assets of this country today. The splendid work that he is doing he should continue to do throughout the war, and the organized profession of this country could do no greater service to the government than to make clear to the Washington authorities that they are unanimous in their support of Surgeon-General Gorgas, and regard him as the best man in the country for the head of the Medical Department of the Army.

General Gorgas has succeeded in surrounding himself with the strongest, most efficient men, and has shown great wisdom and judgment in placing specially qualified men at the heads of the many departments under his control. The men he has chosen from the regular corps as the heads of divisions are strong and efficient: it is only necessary to mention such men as Welch, Vaughan, Billings, Mayo, de Schweinitz and scores of others, who in civil life are the recognized leaders in their special field of work, recognized not only in this country but throughout the world.

We are equally fortunate in finding the Medical Department of the Navy in the efficient hands of Admiral Braisted, who has succeeded in meeting the great expansion made necessary by the war in the most satisfactory way.

The medical profession is also proud of the splendid service that has been rendered by the Public Health Service under the able leadership of Surgeon-General Blue.

HEALTH DURING MOBILIZATION

The mobilization of this country for war is an enormous task. To create an army of from three to five million men or more, where before we had less than 100,000, and create a navy of from 500,000 to 1,000,000 is an undertaking that had never before been worked out by any country. It was necessary that this enormous mobilization should be done as rapidly as possible, and from the rapidity and the enormous size of the mobilization it was inevitable that the medical organization could not accomplish the impossible and secure at once ideal results. Yet when we compare the mobilization of the United States for war with other countries we find cause for congratulation. Up to the time of our mobilization the army of Japan had held the record for the lowest mortality of any country during mobilization, and the best care of its soldiers from a medical standpoint. In the Japanese mobilization there was a mortality of 20 per thousand. In our mobilization there has been a little less than 10 per thousand. In other words, the showing of our mobilization from the standpoint of mortality was twice as good as the record held by any country up to that time. There have been epidemics of contagious diseases, such as measles, mumps and meningitis, and the total number of cases occurring among 2,000,000 men has been somewhat startling; but when these facts are analyzed and it is found that the mortality in our army is less than the mortality in

civil life of the same number of men of the same age, picked by insurance companies, we can realize what splendid results have been accomplished.

The people of this country, the mothers and fathers and wives, whose sons and husbands are in the Army and Navy, are entitled to know, and it will be a great comfort to them to know, that the health of these men is better looked out for than when they were in civil life, that the dangers that they run from disease are less than when they were in civil life, and that when they are sick or wounded they will receive as good care, as high a class of medical and surgical service, as could possibly be obtained in civil life. This is true because our best men have gone into the medical service, and the government is providing the medical departments with every facility necessary to give our soldiers the best medical care.

THE VENEREAL PROBLEM

Strikingly successful has been the handling of the venereal problem. A careful examination of the evidence shows that venereal disease is only about half as frequent in men after they enter the Army as in similar groups of individuals in civil life. Certainly no army has ever been mobilized which has been as clean morally and free from venereal disease as the present American Army. Associated with this fact and responsible in large part for the splendid showing made is the elimination in large part of drink from the Army. Certainly no army has ever been mobilized that has been as free from drinking as the American Army. It was fortunate that our mobilization occurred at a time when the amount of drinking in this country was rapidly diminishing, and at a time when most of our states were going on a prohibition basis. Special efforts have been made by the government in the way of laws that have been enacted for this purpose to prevent drinking in Army posts and in territory immediately contiguous to them. This leads me to a consideration of the problem of drinking and prohibition as a purely medical problem.

NECESSITY OF ELIMINATING DRINK

As we analyze the facts in a scientific and medical way there can be no doubt of the injurious effects of alcoholic drinks on both the physical and the mental well-being of our population. There can be no doubt that the greatest single factor that we can control in the interests of the public health of the nation would be the elimination of alcoholic drink.

In the slow evolution of civilization, many great wrongs persisted for centuries because people had become so accustomed to them that they were accepted as matters of course. They became so intrenched that it required either centuries of education or a revolution to extirpate or right them. Great epidemics and plagues were accepted as inevitable and as visitations of God. Government by autocratic power and divine right without the consent of the governed has been tolerated. Slavery with its horrors was defended. The unequal rights of women went unquestioned. Among these great wrongs too long tolerated, none has done more injury to mankind than drink. Events now are moving rapidly in the convulsions of a world war. Women have demanded and will obtain, as they deserve the world over, their equal rights. The course of events is writing the death warrant of autocracy and rule by divine right; and science and education should eliminate not only the plagues and epidemics but also the curse of drink from the world.

I want to plead for the united action of the organized medical profession of this country to secure protection by law against the injury that drink is doing to our people, not as a political measure, but as the most important public health measure that could be secured. In this crisis when we and our allies are fighting not only for ourselves but also for humanity and civilization, we must organize the entire nation in the most efficient possible way, and this cannot be done without eliminating drink. Each member of the medical profession as an individual, each county medical society, each state medical society should take an active part in the propaganda against drink, and secure national prohibition, not years from now but now when it is so badly needed and will accomplish so much good, not only for our boys in khaki and in blue, but for the nation in arms. And when it has once been done away with, it could no more be resurrected after the war than could slavery.

THE NURSES

One of the serious problems now confronting us is the securing of the necessary number of women nurses for our Army and Navy hospitals. We shall need from 25,000 to 40,000 women nurses. These cannot be secured from the trained and registered nurses of the country and leave a sufficient number of nurses to care for our civilian population. It requires three years of training in times of peace to educate a nurse. But we must remember that in peace times it requires a four years' training at West Point and Annapolis to make an officer of the Army or Navy. In the emergency of this war we are developing splendid officers from well educated, capable men taken from civil life, by intensive short three months' courses in our officers' training camps. The same plan should be adopted in securing the necessary nurses.

There are thousands of well educated, capable young women in this country who are not only willing but are anxious to offer their services to the country. Nurses' training camps and training schools can be developed in our Army and Navy cantonments where, with an intensive three months' training, these young women can be developed into most useful war nurses, and meet the needs of the government. The Surgeon-General of the Army has already taken steps to encourage these nurses' training schools.

RECONSTRUCTION AND REEDUCATION

Another great problem confronting us is the reconstruction and reeducation of our wounded coming back from the war. Our allies after four years of war, bringing with it hundreds of thousands of cripples, have demonstrated what great good can be accomplished by reconstruction and reeducation. The injured man is reeducated to do some useful work. He is not allowed to drift as a useless wreck, a burden to himself and the community. He is recalled to life by a process of training and reeducation that enables him to earn his livelihood, to occupy his mind and to make life — even with a handicapped body — worth living. Surgeon-General Gorgas has been fortunate in securing as the head of this important reconstruction work our own Dr., now Colonel, Frank Billings, who will have the earnest support of thousands of men and women throughout the country in making this work successful.

DRUGS AND CHEMICALS

An organized effort should be made by the medical profession of the country to secure the creation and

maintenance of industries for the production in this country of the necessary drugs and chemicals, surgical instruments and appliances, making this country independent in productions of this kind from other countries of the world. The securing of such legislation by the national government as will protect by proper tariff these industries in the process of development is essential. With the 145,000 medical men in this country, with the population and wealth of this country, we are the largest market in the world for drugs, instruments and medical appliances. By proper legislation, industries could be developed so that these products could be made here as cheaply as anywhere in the world, in such quantities as not only to supply our own market but also to enable us to enter other markets and maintain commercially our position in the western hemisphere, especially in this country and in South America.

HEALTH OF THE CIVIL POPULATION

One matter which the profession should not lose sight of in endeavoring to meet the great demands made by war is the health of our civil population. The importance of maintaining and increasing and making more effective a national Public Health Service with wide authority, of developing in each county and each state strong public health departments, cannot be questioned. We should demand such state and national organizations for public health and preventive medicine that will secure for our people in a much better way than at present the great possibilities of modern preventive medicine. The war makes this matter not less but more important.

ONE HUNDRED PER CENT. LOYALTY

In organizing the medical profession of this country for war there is one fundamental and basic condition that must be secured: We as a profession must go into this war not only efficient, but we must go into it 100 per cent. loyal, 100 per cent. American. We are at war with a barbarous and brutal autocracy. The American people did not want to enter the war. It was only after the Imperial German Government had murdered our people and destroyed our property and treated our repeated protests with contempt that we prepared to defend ourselves against Germany, as an individual must against a murderer, a highwayman, a thief. We are at war with Germany and Austria. The Germans and Austrians who have chosen to make this country their home must choose between the land of their birth and America, the land in which their children are born. The choice with most of them has not been difficult. They have chosen their new home, the birthplace of their children, and these men and women we accept gladly as loyal Americans. But there are a few who are disloyal and would give aid and comfort to the enemy, and these must be sought out and interned where they can do no harm. It is the duty of every medical man and each county medical society to assist the government in securing the arrest and internment of every disloyal member of the medical profession.

There are in this country some German medical societies, and attention of the government authorities should be called to these. They should be disbanded at once. We should not permit, now, or in the future, in this country any organizations that further German propaganda. The world has had its lesson with this monstrous thing.

THE INTERNATIONAL FELLOWSHIP OF SCIENCE

The American medical profession as a whole is more familiar with Germany and the German and Austrian people than is any other class of our countrymen. Thousands of our medical men have studied abroad in the clinics and laboratories of Great Britain and France, of Germany and Austria, of Switzerland and Italy. No other class of people in the world has felt more fully the international brotherhood of science than have American medical men. They have regarded scientific knowledge and scientific discoveries as the property not of one nation but of the world. They have accepted the great discoveries, such as Jenner's of vaccination, the American discovery of anesthesia, the work of Pasteur the great Frenchman, the work of Lister the great Englishman, the work of Koch the the great German, the German discovery of the roentgen ray, the French discovery of radium, the American discovery of the manner of transmission and means of preventing the spread of yellow fever and typhus. They have accepted these and rejoiced that these great discoveries belonged not to one nation or one people, but were contributions to the great international science of medicine. What effect has the war had on this international fellowship of science?

OUR ATTITUDE TOWARD THE GERMAN MEDICAL PROFESSION

I believe we owe it as a duty to ourselves and to the German medical profession to state clearly the feelings and position of the American medical profession toward them. We can never again hold out to them the right hand of the fellowship of science until the German people drive from power and punish as they deserve the brutal and barbarous autocratic government which is responsible for this war, and has created in Germany a government of the people, by the people and for the people. No matter what doubt or confusion there may have been at the outbreak of the war as to the guilt of the German government, the responsibility is today fixed and definite. The refusal to attempt a peaceful settlement before hostilities began, the outrage of Belgium, the invasion of France, the breaking of all international law, the sinking of the *Lusitania*, the evidence and revelations of the long prepared and worldwide plot of Germany to dominate Europe and the world by force of arms, the evidence furnished by the German ambassador to England, Prince Licknowsky, the deliberate attempt of the German government while we were still at peace with Germany to embroil us in war with Mexico and Japan, the murder of Edith Cavell, the use of poisonous gases, the bombing of unfortified towns and cities, the acquiescence in the massacre of the Armenians by their Turkish allies, have all written with the indelible pencil of truth the history of German guilt.

No matter what sophistries the German people may advance as excuses for these things and for their precipitating war on Belgium, France, England and Russia, we know that these cannot apply to America. We know that there is not a shadow of excuse for their making war on the American people. It required repeated outrages to convince the American people that the German government was a thing without honor, that we were face to face with a highly organized and efficient autocracy which recognizes no law but the law of the jungle, an autocracy and a people who would rob their neighbors of their fair fields and

their factories, their iron mines and their oil wells, an autocracy and a people who combine the frightfulness and moralities of the Hun with science and efficiency of the twentieth century, an autocracy and a people that have been seized with the insane egotism that they are God's chosen instruments to civilize and "kultur" the world, not by education and science, but with the mailed fist and the sword.

To medical men who are accustomed to study diseased bodies and minds, this state of mind of the German government and the German people seems like the insanity of a whole nation. We medical men are familiar with a horrible disease, which begins with an initial lesion acquired in a debauch and which ends often in insanity with delusions of grandeur and magnificence. It would seem as though the German nation was suffering from such a disease, from such a form of insanity. It acquired its initial lesion in the rape and outrage of Denmark, of Austria and of France in the decade between 1860 and 1870. The virus of conquest and domination has coursed through its veins for more than fifty years, and has produced now a diseased national mind with the delusions of egotism and grandeur that are responsible for this world's war.

When the German people waken from the nightmare of the war, they must realize the enormity of the crime they have committed under the spell of the medieval autocratic government that controlled them. They will realize that although they might retain with profit to themselves a province stolen from Denmark or Poland, France or Belgium, they can never dominate with force of arms with profit to themselves for any length of time great nations like Russia and France, England, Italy, Japan and America. We are in this war, as our great President has said, "to make the world safe for democracy;" and whether it takes one year or ten years, we shall continue the war until the brutal and barbarous autocracy of Germany is destroyed. If the German people could have but a brief period of freedom from their war madness, let them ask themselves if the few miles of Belgium and France and the occupied provinces of stricken Russia can compensate them for making nine tenths of the world their bitter enemy. And they should be made to know that this is not the enmity of a day, the enmity that will disappear with a peace that they hope to compel by force of arms, but that it is an enmity that will last, that will mean for Germany a complete severance of relations, social, commercial and in every way from ourselves and our allies until Germany has purged itself of guilt, and asks humbly for a place among the nations in which the people rule. The medical profession of America sends this message to the medical profession of Germany.

OUR SINGLE PURPOSE AS A NATION

To the medical professions of Belgium and France, of England and Italy, of Russia and Greece, of Portugal, Roumania, China and Japan, of Brazil and the Central American Republics, to our colleagues in Canada and Australia and New Zealand and South Africa, and to the other nations who in response to German outrages have joined in war against her, we send a message to hold fast and be of good cheer. We have been a peace loving people, we loathe war, we have done everything a nation could in honor do to avoid war, but our people have been murdered by the German government and the German people, and we protested and they murdered more, and we protested and they murdered more, and we have been forcd to defend ourselves and our rights. We have not been a military nation. We have been unprepared for a great war. But we have absolute confidence in the ultimate success of our democratic form of government. We believe that it is not only the best form of government in peace, but that it can be made the most efficient and best organized form of government in a great war. Let us tell our medical colleagues in the nations who are now our allies that America with its more than hundred million free men and women is organizing itself into a great military machine, that all our people, that all our resources, that everything we have is being converted as fast as brains and energy and money can convert them into a weapon with which to win this war, which is now our war. Let us tell them to hold fast and be of good cheer, for America is coming.

America asks nothing for herself. She comes with a clear conscience, a sane national mind, a stout heart and a strong arm. She comes with the single purpose of a united people, a hundred million strong, to punish the murderers of her people and to win this war for civilization and humanity.

Let us send from this meeting of the organized medical profession of America to our great leader in Washington a message, the message that wells up from every farm and factory, from every town and hamlet, the message that echoes and reechoes through our country, from the mountains through the valleys to the sea, the message that is sent by every man and woman of America when our government calls for their services in this war:

We hear the call of our country. We answer, we are here.

THE EFFECT OF TYRAMIN ON CIRCULATORY FAILURE

DURING INFECTIONS AND DURING OR AFTER OPERATIONS *

A. W. HEWLETT, M.D.
Surgeon, U. S. Naval Reserve Force
AND
W. E. KAY, M.D.
SAN FRANCISCO

The action of tyramin[1] on the normal circulation of man has been considered in a previous paper.[2] After the subcutaneous injection of a full therapeutic dose (from 60 to 80 mg.), the systolic blood pressure usually rises to levels of from 150 to 200 mm. The pressure begins to rise within five minutes after the injection, attains its maximum in about ten minutes, and subsides more gradually to its previous level, which is usually reached in from fifteen to thirty minutes. The diastolic pressure frequently rises also, but never to any great extent. The volume pulse in the arm becomes larger and more sustained. The heart rate becomes somewhat slower, and extrasystoles occasionally occur. These circulatory changes, except for being more prolonged, resemble those which follow the intravenous injection of epinephrin in moderate doses. Subcutaneous injections of epinephrin, on the other hand, rarely cause any marked rise of systolic

* From the Division of Medicine, Leland Stanford Junior University School of Medicine.

1. "Tyramin" is the short term for "tyramin hydrochlorid."
2. Hewlett, A. W.: The Action of Tyramin on the Circulation of Man, Arch. Int. Med., March, 1918, p. 411.

pressure and not infrequently lower the diastolic pressure.

Despite the fact that tyramin injections consistently raise the systolic blood pressure of man, we find in the literature but few instances in which they have been used clinically for the purpose of combating a failing blood pressure. Hoyt[3] recorded one case of advanced tuberculosis with marked circulatory weakness in which the systolic pressure was raised from 85 to 130 mm. by the injection of 40 mg. of tyramin. Clark[4] injected tyramin on two occasions into a patient showing collapse after an operation for a ruptured gastric ulcer, and after each injection the systolic pressure showed a transient rise, from 60 to 72 mm., without, however, preventing a fatal termination. In a second patient, showing collapse after hemorrhage from septic wounds, Clark raised the systolic pressure for a short time from 100 to 142 mm. The patient died some days later.

In the present paper we wish to place on record additional observations on the effects produced by the subcutaneous injection of tyramin during the circulatory failure of infectious diseases as well as during that which may occur during or after operations. A few attempts to abort asthmatic paroxysms with this drug will also be reported.

TYRAMIN IN THE CIRCULATORY FAILURE OF INFECTIONS

In the following cases of infection the patients showed a serious circulatory failure previous to the administration of the drug. Such failure is characterized by a rapid, small and poorly sustained pulse and by a subnormal blood pressure.

CASE 1 (Hospital No. 58260).—In a patient, aged 69, with double lobar pneumonia 40 mg. of tyramin were injected at 1:30 p. m., Sept. 19, 1917, without appreciable effect on the pulse or the blood pressure. At 4 p. m. a second injection of 80 mg. was given. Ten minutes later the systolic pressure had risen from 100 to 110, the diastolic pressure was still 58, and the pulse had increased from 85 to 100, the pulse feeling a little fuller. Twenty-five minutes after the injection the circulatory condition had returned to its previous state. The patient died early on the following morning.

CASE 2 (Hospital No. 58632).—In a patient, aged 57, with lobar pneumonia complicated by malaria, the blood pressure at 1 p. m. was 85 systolic and 60 diastolic, and the pulse was 140 per minute and barely perceptible. Five minutes after the injection of 80 mg. of tyramin, the pressures were 110 systolic and 60 diastolic, and the pulse was 145 and somewhat more easily felt. Fifteen minutes after the injection the blood pressure and pulse had returned to the original condition. At 2 p. m. the pulse could not be felt, nor could the blood pressure be read. The injection of 80 mg. of tyramin at this time did not produce any evident change. The patient died half an hour later.

CASE 3 (Hospital No. 60120).—In a patient, aged 28, with typhoid fever, Nov. 20, 1917, the blood pressure was 85 systolic and 65 diastolic, and the pulse was 120. Sixty mg. of tyramin were injected. Five minutes later the blood pressure had risen to a maximum of 115 systolic and 70 diastolic, and twenty minutes later it was 100 systolic and 70 diastolic. November 21, the patient became cyanotic, the pulse was imperceptible, and the blood pressure could not be recorded. Three minutes after the injection of 60 mg. of tyramin, the pulse could be easily felt, and the blood pressures were 95 systolic and 65 diastolic. Half an hour later the pulse was still palpable. The improvement in the patient's general condition following this injection was very striking and was commented on by the attendant nurses. November 22, the blood pressures were 80 systolic and 60 diastolic; the pulse was 126 and very small. Four and ten minutes after the injection of 60 mg. of tyramin the blood pressure was 100 systolic and 60 diastolic, and the pulse was larger. Twenty-five minutes after the injection the pressure was again 80 systolic and 60 diastolic. The patient died, November 23.

CASE 4 (Hospital No. 60216).—A man, aged 38, with typhoid fever, was unconscious when admitted to the hospital, and the pulse could not be felt. Five minutes after the injection of 60 mg. of tyramin the pulse could be counted, 150 per minute. It remained palpable for about an hour, when it again became imperceptible. A second injection of 60 mg. had the same effect as the first. During the following thirty-six hours the drug was given whenever the patient became pulseless, usually at intervals of one to one and a half hours. Up to the last two hours before the patient's death, each injection was followed by a return of the pulse and some improvement in the general condition. The last one or two injections, however, produced no effect.

From these observations it is evident that in the circulatory failure which may complicate infections, the subcutaneous injection of tyramin causes at times a transient rise of blood pressure and an increase in the size of the pulse. These effects were neither so marked nor so constant in the circulatory failure of infections as they were when the drug was injected into individuals with normal circulations (compare with the results, recorded by Hewlett[2]). Furthermore, the drug was often ineffective shortly before the death of the patient. Occasionally, as in the second injection given in Case 3, the change in the circulation was accompanied by an evident improvement in the general condition of the patient. The effects of the drug, however, were transitory, and in our cases the final outcome was not influenced. Indeed, it is to be expected that when the underlying cause of the circulatory failure is progressive in character, no drug which merely corrects this manifestation is likely to save the patient. At the same time it is conceivable that under exceptional circumstances the temporary improvement in the circulation might prove of decisive value in enabling the patient to overcome the infection.

TYRAMIN IN THE CIRCULATORY FAILURE DURING AND AFTER OPERATIONS

CASE 5 (Hospital No. 59183).—A man, aged 30, after the resection of a rib for pyopneumothorax following lobar pneumonia, became cyanotic and pulseless. Sixty mg. of tyramin were injected. In five minutes the pulse had become palpable and in ten minutes it was full, rapid and of fair tension. The patient's general condition was strikingly improved. Forty-five minutes later, when the pulse was again becoming smaller, a second injection of 60 mg. was given, and again the condition of the pulse improved. Thereafter it remained rapid but of fair size, and the patient eventually recovered. Dr. Philip Gilman, who had operated on this patient, expressed the opinion that the tyramin had saved him from a seemingly fatal collapse.

CASE 6 (Hospital No. 58232).—In a woman, aged 38, following a hysterectomy for fibroids and secondary anemia, the pulse became almost imperceptible. About five minutes after the injection of 60 mg. of tyramin, the pulse became full and of good tension. The patient complained of cardiac palpitation. The pulse remained good, and the patient recovered.

CASE 7 (Hospital No. 60847).—A woman, aged 45, was much emaciated and weak. A panhysterectomy was performed for tuberculosis of the ovaries and tubes. Midway in the operation the pulse became barely palpable, with a rate of 130 per minute. The systolic pressure was 60 mm. Three minutes after the injection of 60 mg. of tyramin, the pulse became distinctly palpable, fuller and somewhat slower

3. Hoyt, D. M.: The Therapeutic Application of P-hydroxyphenylethylamin (Tyramine), an Active Principle of Ergot, Am. Jour. Med. Sc., 1912, **144**, 76.
4. Clark, A.: The Clinical Application of Ergotamine, Biochem. Jour., 1910-1911, **5**, 236.

(120 per minute). The blood pressure rose to 100 systolic and 65 diastolic. The pulse remained palpable for about twenty-five minutes, at which time it became imperceptible and the blood pressure could not be determined. A second injection of 60 mg. caused the pulse to become palpable again. Ten minutes after the injection the pressure was 80 systolic and 55 diastolic, and twenty minutes after it was 60 systolic. Twenty-five minutes later the blood pressure could not be read. Owing to the serious condition of the patient, the operation was terminated. While Hogan's gelatin solution was being prepared, another 60 mg. of tyramin was injected. Within four minutes the blood pressure was 70 systolic and 55 diastolic, and the pulse could be counted, 150 per minute. Five hundred c.c. of Hogan's solution were then given intravenously, and the pulse remained palpable for an hour, the blood pressure being 55 systolic and 45 diastolic. The patient's condition gradually grew worse. Injections of 60 mg. of tyramin caused the pulse to reappear on several more occasions, but were ineffective during the last hour before death, which occurred eight hours after the patient had left the operating table.

CASE 8 (Hospital No. 61230).—A patient, aged 22, following exploratory operation for cerebellar tumor, returned to the ward with a pulse that was barely palpable and 150 per minute. Sixty mg. of tyramin were injected subcutaneously. Within three minutes the pulse became fuller and slower (120 per minute). The blood pressure, which could not be read previously, was now 85 systolic and 55 diastolic. Thirty minutes later the pulse again became very small, and 500 c.c. of Hogan's solution were given intravenously. There was temporary improvement in the patient's condition. The pulse remained palpable for forty-five minutes, with a rate of 150 per minute. The blood pressure was 70 systolic and 50 diastolic. Death ensued two hours later.

CASE 9 (Hospital No. 9469).—In a patient, aged 38, following a cholecystectomy, the pulse was barely palpable, and its rate was 160 per minute. The blood pressure was 100 systolic and 60 diastolic. The patient was cyanotic. Four minutes after the injection of 60 mg. of tyramin the pulse became fuller and of greater tension, the pressure being 130 systolic and 70 diastolic. Twenty minutes later it was 115 systolic and 65 diastolic, the pulse rate being 120. The pulse continued to be of good quality, and the patient recovered.

CASE 10 (Hospital No. 9609).—A patient, aged 38, following the incision of multiple abscesses attended by considerable loss of blood, returned to the ward in a state of circulatory collapse. The pulse was scarcely felt and 150 per minute; the blood pressure was 95 systolic and 55 diastolic. Four minutes after the injection of tyramin, the pulse became easily palpable, with a rate of 120, and the blood pressure was 130 systolic and 65 diastolic. There was an evident improvement in the patient's condition which aroused enthusiastic comment from the attending intern. In ten minutes the blood pressures were 120 systolic and 65 diastolic, with a pulse rate of 120 per minute. The pulse remained easily palpable for half an hour, when it became less full and strong. Five hundred c.c. of Hogan's solution were then given intravenously with benefit. The patient recovered.

CASE 11 (Hospital No. 61011).—A patient, aged 22, following an operation for the removal of an extensive neurofibromatous growth of the legs, returned to the ward in a condition of circulatory collapse. There was cold perspiration over the body. The pulse was barely perceptible and 160 per minute. The blood pressure was 50 systolic and 30 diastolic. Four minutes after the injection of 80 mg. of tyramin, the pulse became easily palpable and 130 per minute. The blood pressure rose to 95 systolic and 55 diastolic. Five minutes later it was 75 systolic and 55 diastolic. There was an evident improvement in the patient's general condition. One hour later the pulse had again become small, and the blood pressure had fallen to 65 systolic and 45 diastolic. A second injection of 80 mg. of tyramin was given, which again caused a distinct improvement in the general condition of the patient and a rise of pressure to 95 systolic and 50 diastolic. The patient continued to improve, and recovered from this threatening circulatory collapse.

In these patients with circulatory failure during or after surgical operations the injection of tyramin usually caused a transient but marked improvement in the pulse, the blood pressure and the general condition. As in the circulatory failure of infectious diseases, the rise of blood pressure was less marked than that caused by the injection of tyramin into individuals with a normal circulation. The circulatory failure that occurs during or after operations differs from that complicating the infectious diseases in that the underlying cause is less often progressive. For this reason a temporary improvement of the circulation may lead to lasting results, and in Cases 5, 6, 9, 10 and 11 the immediate improvement caused by the drug was followed by ultimate recovery. It cannot be demonstrated that tyramin saved the life of any one of these patients, for we do not know what would have been the ultimate outcome had tyramin been omitted. Nevertheless the opinion prevailed among those who attended these patients that in Cases 5, 10 and 11 the outlook was unfavorable and that tyramin saved the life of one or more of them.

Of drugs ordinarily given in order to combat the circulatory failure that may supervene during or after operation, none have withstood the test of investigation by accurate methods. In therapeutic doses, strychnin appears to exert no influence on the circulation; in normal men, at least, caffein tends to lower the blood pressure; therapeutic doses of camphor have little if any action on the circulation, and subcutaneous injections of epinephrin usually fail to cause any rise in the mean blood pressure. Intravenous injections of epinephrin raise the blood pressure, but the effect is very transitory and difficult to control, and they have not been generally used. Most surgeons in treating this type of circulatory failure rely mainly on the application of heat externally and the addition of fluid to the body either by rectum, by hypodermoclysis, or by the intravenous injection of various solutions or of whole blood. Over most of these methods tyramin possesses the advantage of a simple technic and a rapid effect. The rise of pressure begins within five minutes and usually reaches its maximum in about ten minutes. It may be given while preparations are being made for intravenous therapy.

One possible danger from tyramin should be mentioned. Even in those with a normal circulation this drug may cause extrasystoles, and when extrasystoles are already present it may increase their number.[2] Since a rapid succession of ventricular extrasystoles may pass on into ventricular fibrillation, it is possible that tyramin, like intravenous injections of epinephrin, may occasionally cause a fatal ventricular fibrillation, particularly in those whose heart muscle is in an unusually irritable condition. For this reason the drug should not be administered when frequent extrasystoles are present. During chloroform anesthesia also the foregoing danger is increased, for we know that in animals chloroform in proper doses may provoke a fatal ventricular fibrillation, and it seems probable that the sudden cardiac deaths which occur occasionally during surgical operations under chloroform are due to this cause.

FAILURE OF TYRAMIN TO ABORT ASTHMATIC PAROXYSMS

It is well known that many asthmatic paroxysms may be aborted by the injection of epinephrin. Baehr

and Pick[5] found in animal experiments that while epinephrin caused a dilatation of the bronchi, tyramin had the opposite effect. Despite this unfavorable experimental evidence, it seemed worth while to test the action of tyramin on paroxysms of asthma. As the following cases show, the drug has little, if any, beneficial effect under such circumstances.

CASE 12.—A medical student, aged 24, had been frequently relieved by epinephrin in previous attacks of asthma. During an asthmatic seizure, 60 mg. of tyramin were injected subcutaneously. The blood pressure rose from 125 systolic and 70 diastolic to 190 systolic and 80 diastolic, but no relief was obtained from the dyspnea. One c.c. of epinephrin solution (1:1,000) was then administered subcutaneously, and the paroxysm subsided. As on previous occasions, however, the patient complained of tremulous sensations, palpitation of the heart, etc., symptoms which did not occur after the administration of tyramin.

CASE 13 (Hospital No. 52993).—A patient, aged 37, during a severe attack of asthma was given 60 mg. of tyramin subcutaneously, with no effect on the symptoms. Before the injection the blood pressure was 140 systolic and 100 diastolic, with a pulse of 96 per minute. Five minutes after the injection, the blood pressure was 160 systolic and 110 diastolic, with a pulse of 100. One c.c. of epinephrin solution gave almost immediate relief. The patient complained of nervous sensations and cardiac palpitation, symptoms not experienced after the tyramin.

CASE 14 (Hospital No. 56014).—A patient, aged 26, was admitted to the ward during an acute attack of asthma. Sixty mg. of tyramin were injected with no effect on the symptoms. Thirty minutes later 1 c.c. of epinephrin solution was injected which gave temporary relief. The attack was finally controlled by morphin and atropin.

CASE 15 (Hospital No. 40930).—A patient, aged 35, suffering from a paroxysm of asthma, was given 60 mg. of tyramin subcutaneously. There was no relief from the symptoms. Epinephrin given twenty minutes later also failed to control the attack. The patient was relieved by atropin.

CASE 16 (Hospital No. 39864).—A patient, aged 38, during an asthmatic attack was given 80 mg. of tyramin with no relief. Before the administration the blood pressure was 148 systolic and 80 diastolic, with a pulse of 80 per minute. Five minutes after the injection the blood pressure was 180 systolic and 100 diastolic, with a pulse of 78 per minute.

SUMMARY

1. In four patients who showed evidence of circulatory failure during the course of infectious disease, repeated injections of tyramin were given. These usually caused a transient rise of blood pressure and an increase in the size of the pulse. These effects were less marked than those produced when the drug was given in similar doses to those with a normal circulation. In none of our cases did a permanent improvement occur.

2. In seven patients who showed evidence of circulatory failure during or after operation, repeated injections of tyramin were given. These usually caused a transient rise of blood pressure and an increase in the size of the pulse. Striking improvements in the general condition of some of these patients occurred. Five of the seven patients recovered, and in three of these the drug benefited a condition which to those in attendance seemed desperate.

3. In five patients, tyramin failed to abort asthmatic paroxysms, although other drugs (epinephrin and atropin) were subsequently used with benefit.

5. Baehr, G., and Pick, E. P.: Pharmakologische Studien an der Bronchialmuskulatur der überlebenden Meerschweinchenlunge, Arch. f. exper. Path. u. Pharmakol., 1913, 74, 41.

A BACTERIAL TOXIN AS THE CAUSE OF RETINAL HEMORRHAGE

F. PARK LEWIS, M.D.
BUFFALO

In the summer of 1917, a case of retinal hemorrhage came under my observation which illuminated the heretofore obscure etiology of this condition. It made definite that which, in such conditions before, had been vague. It determined causes which could be corrected, and it made precise, measures of treatment which before had been speculative. Its importance, therefore, would seem to warrant a brief report with the deductions to which it gives rise. It is briefly as follows:

A woman in middle life had been having a series of recurrent hemorrhages in the retina for a period of eight months. During this time she had been under the advice and observation of an excellent internist and an ophthalmologist of international reputation. The treatment, therefore, might reasonably be accepted as fairly expressive of that which the best professional skill would approve. It consisted of elimination through the kidneys by saline cathartics and through the skin by baths. The hemorrhages continued to recur, however, and when she was examined, patches of blood were found scattered in the vicinity of the larger vessels, with a number of minute spots near the macula which had materially reduced the acuity of vision. As this is not a technical report of the case, the exact ocular details need not here be given. It was found, however, that she was only 46 years old, that she had no arteriosclerosis, and that her blood pressure was only 120 mm. of mercury, but that she had marked leukocytosis. She had no disease of the kidneys and was apparently, aside from the eyes, in excellent health.

Further inquiry elicited the fact that five years before she had an abscess of the antrum which had seemingly recovered. She was referred to a rhinologist, however, who opened the antrum and removed a quantity of bland, sterile pus. Pyorrhea was evident to the least critical observer, while roentgenograms revealed the presence of apical abscesses of several teeth with rarification of the alveolar tissue. The infected teeth were removed with aseptic precautions and a culture made by Dr. Thibaudeau, pathologist of the Children's Hospital, Buffalo, which showed that the active organism was the *Streptococcus hemolyticus*. The removal of the source of infection was followed by a cessation of the hemorrhages, although the destruction of retinal tissue had been so great that vision was not materially improved.

In a subsequent case of recurrent hemorrhage in a man, aged 70, with a blood pressure of 200, again an infected tooth was suspected after various other measures had been ineffectively used. Its evidence was verified, and again the active organism proved to be the *Streptococcus hemolyticus*. An autogenous vaccine was prepared and employed at intervals of four days for six weeks. Since that time, now about six months, there have been no further hemorrhages. In almost every case since in which hemorrhage of the eyeball has been present, some form of focal infection has been found, and the active organism has usually been some form of the streptococcus and almost invariably in recent examinations the *Streptococcus hemolyticus*.

Retinal hemorrhage is of much more frequent occurrence than it is generally supposed to be. It is not dependent on blood pressure. It may be associated with, but is not directly caused by, arteriosclerosis, albuminuria, diabetes or other diseases involving disturbed metabolism or focal infections. In any of these conditions, protein toxins may be given off. These are easily absorbed into the circulation, more especially when they arise from focal infections that are proximal to the eye. The organism which is most commonly present is the streptococcus, and the form

frequently found is that of the *Streptococcus hemolyticus*. The hemorrhage thus produced is not the result of force from behind, but is due to softening of the tissues of the capillary or arterial walls by the local action of this toxin, thereby producing lysis.

This conception has not heretofore been recognized as a cause of retinal hemorrhage, and the reasons for the conclusions reached will be briefly given. The importance of the subject will at once be evident, as in a proportion of cases, at least, a definite etiology and one which clarifies the entire situation will be established in place of one which is vague and speculative. It explains satisfactorily many pathologic changes otherwise obscure, and gives definite and specific methods of procedure which, if determined early enough, may have a preventive value, in conditions not only endangering sight but even life itself. That our fundamental knowledge of the cause of retinal hemorrhage is still exceedingly indefinite is shown in a review of our most recent literature. In an exhaustive article from the pen of Professor Eperon,[1] the conclusion reached is that while the causes given are arteriosclerosis, albuminuria, glycosuria and menopause, still, "it is somewhat misleading to regard hemorrhagic retinitis as a single clinical entity—it is a symptomatic condition which must be evaluated according to concomitant factors."

Dr. Clegg[2] has confessed that "he is quite at a loss to know the explanation of retinal hemorrhage in spite of all of the suggestions made in literature," and he believes especially that "the known methods of treatment are by no means reliable, nor is it even always at once evident which line of treatment will best suit an individual case." In one of the latest and most authoritative textbooks[3] it is accepted without further comment that "while most cases of retinal hemorrhage are due to arteriosclerosis, diabetes, chronic nephritis, etc., there are also a large number which have no discoverable cause." Parsons[4] makes no attempt to describe the conditions which produce retinal hemorrhage.

It is generally assumed by ophthalmologists that one or two conditions obtain or that the two at the same time may be present—either that the internal pressure becomes so great that it can no longer be resisted by the retaining wall of the blood vessel, which consequently ruptures, or that through change of structure the vessel wall becomes so weakened that the normal pressure can no longer be resisted. Little attention has been given, as to the manner in which these structural changes take place, or on what they are dependent. This is vitally important because on its understanding is based our whole conception of the actual etiology, and therefore prognosis and treatment. It is here urged that that which actually occurs is the absorption into the blood of a soluble protein poison, usually given off from a focal infection, which has a solvent effect on the intercellular cement substance of the cell wall, and that the hemorrhage is not due to alteration of the blood pressure but to local lysis in the wall itself. That this view is not that which is commonly entertained is evidenced by a writer[5] who, in urging the more general use of the sphygmomanometer, says that "while tuberculin is needed in many of these cases, in addition thereto means must be resorted to to reduce the blood pressure or to make it compensate." The editorial comment on this is: "While recurrent retinal hemorrhage may be accompanied by low blood pressure, as was pointed out by the late E. W. Stevens twelve years ago, its association with variations of coagulability of the blood should also be studied. It may occur with high coagulability as well as with low." This leads to the inevitable conclusion that neither the blood pressure nor the coagulability is the essential factor to be reckoned with, but that back of this is another element which has not yet been recognized.

Happily the investigations of Vaughan and Wheeler in 1903 in which they demonstrated that the colon bacillus contains a highly active poison was epoch making and vitally important in this connection. In their subsequent studies they isolated from other bacteria a toxic substance which came to be known as the "protein poison." When undigested proteins are introduced into the blood current, this virulent poison is set free, the body becomes sensitized, and death may result without bacteria entering into the active process. They are, however, the source from which the toxin is derived. The poison thus given off from a focal nidus is slowly absorbed, and disturbing local effects result.

The differential character of the toxins given off by the different strains of bacteria has not yet been studied. It is known, however, that several varieties produce hemorrhage. The effect is not unlike that of the snake venoms, which Flexner has shown contain a chemical substance having a definite endotheliotoxic action or a solvent effect on the intercellular substance. Wells considers it quite probable that of the chemical agencies causing hemorrhage the bacterial products are the most important:

> It is quite probable that the bacterial poisons that cause marked hemorrhagic manifestations likewise contain endotheliotoxins. . . . Hemorrhage in cachectic conditions is often ascribed to changes in the vessel walls due to malnutrition, but it is difficult to imagine capillary walls suffering from lack of nourishment even with the poorest of blood, and it seems more probable that the hemorrhages are due even in cachexia to chemical constituents of the blood that injure the endothelium.

As to changes of blood pressure, it will be remembered that so large is the capillary area as compared with that of the arterial system, and so great the friction of their walls as the blood stream passes through them, that even when the initial pressure is high it is reduced to the practically negligible force of between 20 and 30 mm. of mercury by the time that it reaches these terminals. Balanced, moreover, as it is by the ocular tension, a pressure rupture in a normal capillary must be impossible, as we do not have retinal hemorrhage with the high tension of glaucoma or in the greatly reduced tension of phthisis bulbi.

An added importance to the subject lies in our understanding not alone of hemorrhages within the eye but also of hemorrhages elsewhere in the body. It would seem very doubtful indeed if in cerebral apoplexy the vessel breaks because of the internal pressure from the blood; more likely, the protein poison, from whatever source it originates, has so affected the nutrition of the endothelium at that special point in the vessel's course that the normal elastic cellular substance, then replaced with calcareous or other mineral substances, is so softened that dissolution of the walls results and hemorrhage is precipitated. If, as would seem, this is what actually occurs,

1. Summarized by a writer in the British Journal of Ophthalmology, 1917, **1**, 187.
2. Clegg: Paper read before the Ophthalmological Society of the United Kingdom, May, 1916.
3. Knapp, A. H.: Medical Ophthalmology, Philadelphia, P. Blakiston's Son & Co., 1917.
4. Parsons: Pathology of the Eye, New York, G. P. Putnam's Sons.
5. Am. Jour. Ophth., April, 1918, p. 289.

the recognition of this newer pathology will enable us to seek the origin of the focal nidus producing the poison, and by removing this stop the recurrence of this tragic disaster instead of wasting valuable time in eliminatives that can have no direct effect whatsover on the disease.

454 Franklin Street.

ABNORMAL REFLEXES CAUSED BY MORPHIN POISONING IN A TABETIC

MICHAEL OSNATO, M.D.

NEW YORK

The patient is a physician, aged 48, married. He is bedridden and undoubtedly has a well advanced case of tabes, in the paralytic stage. The diagnosis has been confirmed by serologic and spinal fluid examinations, both of which have been performed under the supervision of Major Joseph Collins at the Neurological Institute.

Mentally, the patient shows a pure acute depression. For a number of weeks prior to the taking of the overdose of morphin, he had been talking of committing suicide, lamenting his fate and the hopelessness of his condition. He cried a great deal, and was irritable and complaining. For several days before taking the morphin he had suffered from moderately severe laryngeal and cardiac crises, and also from root pains in both lower extremities. His memory was good and there was no mental deterioration. There was no expansiveness, no excitement other than the agitated depression, and there were no indications at any time of euphoric tendencies. Mentally and neurologically, there was nothing to suggest that the patient was a paretic.

As revealed by the general neurologic examination before the taking of morphin, all the cranial nerves were functionating properly. The fundi were normal. The pupils reacted very little to light, and were small and slightly irregular, but reacted well to accommodation. There was good consensual reaction. The patient was unable to stand except by the aid of a cane or by leaning on the arm of another, and could not walk without help. There was a decided equilibratory and nonequilibratory ataxia. The deep reflexes in the upper extremity were fairly active and equal, but the ankle and patellar reflexes had been absent. There had not been any Babinski reflex, and whatever response the great toe gave to stroking of the plantar surfaces had been very mildly flexor. There was no clonus. There was loss of power in the lower extremities and loss of tone. There was no atrophy and no tremor. There were several areas of anesthesia; and various paresthesias and dysenthesias had been found in both feet, particularly on the plantar surfaces. The speech showed no defect excepting that when the patient spoke moderately long, the voice became weak and thin with much complaint of dryness of the throat. The normal blood pressure ranged between 120 and 130 with no diastolic record, except on one occasion taken about two weeks before the incident under discussion, when it had been 120 systolic and 80 diastolic. The heart and lungs were normal, and the peripheral and retinal blood vessels had been singularly free from arteriosclerotic changes. There was incontinence of feces and urine, which was of about eight months' duration.

About 5 p. m., March 23, 1918, the patient took surreptitiously eight ¼ grain tablets of morphin. In about an hour he was unconscious, cyanotic, dyspneic and apparently dangerously ill. The physician found him breathing stertorously and irregularly, with face, lips and hands cold and blue. The heart rate went from 140 to 176 within a half hour, but did not become intermittent until the more rapid rate had been reached. Later, the breathing was characteristic of the Cheyne-Stokes type. The pulse was small and weak, and the physician judged that the blood pressure was extremely low, although it was not taken. The patient was in coma and could not be aroused. He was immediately stimulated and the general condition improved somewhat, although the coma continued as profound as before. The attending physician watched the case and studied the clinical symptoms with no idea whatever that morphin had been taken and was really the cause of the symptoms. There is no record of the reflexes during this period.

I examined the patient at his home about 8 o'clock that evening. He was breathing quietly but regularly. Occasionally there was a pause of from four to ten seconds without respiration, and the average rate was from eight to ten per minute. He was neither livid nor pale. The head was turned to the left and remained continuously in that position. If the head was placed straight, within a few minutes it would resume the position described above, although it did not seem to be pulled in that direction. The patient was in a condition of extreme muscular relaxation. There was a marked muscular flaccidity in the trunk, in all four extremities and in the neck, which could not be entirely accounted for by tabes.

All the cranial nerves appeared to be functionating properly. There was no demonstrable central or peripheral type of facial palsy, although it appeared to two of us that possibly the left side of the face was flatter than the right. However, as I had not seen the patient for a long time, I did not pay much attention to this symptom. The pupils measured about 2.5 mm., and reacted poorly to light; accommodation could not be tested, the patient being in coma. The consensual reaction was absent on repeated testing. The reflexes in the upper extremity were fairly active and equal. The patellar, ankle and dorsocuboidal reflexes were absent. The abdominal reflexes were peculiarly inconstant. At the first examination of the evening, it was almost impossible to get more than a very slight flicker from the abdominals on the left side; later, these became very active; the reflexes on the right side could not be obtained. Still later, all the superficial reflexes except the lower right abdominals were active. Most surprising was the definite presence of a well marked Babinski response on the right side which was demonstrated time and again, and which was produced at each stimulation at least eight or nine times. On the left side we obtained a doubtful Babinski response on three or four occasions. The Oppenheim reflex on the left side was surely present; on the right side, this abnormal reflex, together with a Chaddock and Shaffer reflex, was present. No Gordon reflex could be elicited on either side. There was also present at each application of the test a Klippel-Weil reflex on the right side only. Here, too, there was present the pronation sign of Strümpell. The sign of Marie-Foix was absent. The patient's muscles were extremely flaccid. There were twitchings and convulsive movements of the legs and right upper extremity. The rest of the neurologic examination was negative. The heart beat was 136 and regular. There was brachycardia. The blood pressure was 80 systolic, and the diastolic pressure could not be obtained. A few hours later, the blood pressure had fallen to 75 systolic. The face was not suffused or cyanotic, and the breathing was not stertorous. The skin was warm and dry, the temperature 97.

At the consultation that followed, several conditions were thought of. We did not dream of any toxicosis from morphin, and after considerable discussion, it was agreed that we had to deal with a cerebral hemorrhage. We felt that the patient was at the point of death, and I called attention to the fact that blood pressures were prone to take a sudden drop before death in cases of cerebral hemorrhage. The abnormal reflexes decided the diagnosis, particularly as I reasoned that the pyramidal tract irritation must be great in order to produce clinical evidence of such a pathologic condition in an advanced tabetic. I was mystified by the presence of the Babinski and Klippel-Weil reflexes, particularly in view of the hypotonia and the absence of deep tendon reflexes in the lower extremities.

The subsequent history of the case was very gratifying. Despite the fact that it was considered unwise to use stimulants of any kind and that nothing at all was done for the patient except to leave him alone, in five or six hours he began to regain consciousness, and in twenty-four hours had entirely recovered from his coma.

At an examination made two days later, all the superficial and deep reflexes were as they had been before the ingestion of

the morphin, and the abnormal reflexes mentioned had disappeared. The consensual reaction had also returned. We were informed by the patient at this examination of the deliberate attempt to take his life.

COMMENT

An investigation of the effect of morphin on the nervous system reveals that most authorities agree that the spinal reflexes are increased by morphin, both by moderate and toxic doses. The same authorities also agree that cerebral inhibitions of various types are increased by the depressant action of morphin on the brain. It has occurred to me that a combination of these two physiologic actions of morphin may be offered as an explanation for the phenomena observed in this patient.

Hare[1] says:

> The action of opium upon man and the lower animals varies with the degree of intelligence or cerebral development. It quiets the brain and excites the spinal cord.

Sollmann[2] agrees that:

> The reflexes and the spinal functions are mainly stimulated.

Wood[3] says:

> There is considerable physiological evidence that in frogs, at least, presumably in other animals, there is located in the optic lobes a center known as Selschenow's center, whose function is to control reflex activity, and stimulation of which diminishes reflexes. It would appear plausible that morphin in small doses excites this center so that the spinal activities would be lessened and that the large dose stimulates the ganglia in the gray matter of the spinal cord, perhaps also paralyzing the inhibitory center at the same time, thus producing marked increase of reflexes and even convulsions.

Some such physiologic action as has just been described must be called in to help us explain the phenomena observed in the patient. There must of necessity be posited the presence of a physiologic action characterized by removal of cerebral inhibition over the control of reflexes. The effect of such removal of cerebral inhibition would be to allow the drug a free hand in exciting the inherent reflexes existing in the spinal cord. Such a combined action would give us an explanation for the phenomena observed here.

It will be recalled that the Babinski phenomenon and allied abnormal reflexes, including the Klippel-Weil (in the hand), have been explained on the ground of loss or diminution of the control exerted by the corticospinal or pyramidal tracts on reflex movements. The pyramidal functions are inhibitory of voluntary and reflex movements. Phylogenetically, the pyramidal tracts are of late acquisition, and their removal, therefore, or diminution of their function for any reason would allow an older mechanism to work unhampered. Such a mechanism is found in the spinal cord reflexes which, it seems agreed, morphin excites.

CONCLUSION

A report of this case is possibly of importance in throwing some light on the physiologic action of morphin on the brain and spinal cord, particularly as it relates to the reflexes. The conception of morphin as a cerebral depressant and spinal stimulant seems to be borne out in some degree by this case.

270 West Eighty-Ninth Street.

1. Hare, H. A.: A Text-Book of Practical Therapeutics, Ed. 15, 1914, p. 383.
2. Sollmann, Torald: A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology, 1917, p. 217.
3. Wood, H. C., Jr.: Pharmacology and Therapeutics, Ed. 2, 1916, p. 122.

SIMPLE METHODS FOR PROLONGING THE VIABILITY OF MENINGOCOCCUS CULTURES*

DOLORES E. BRADLEY, M.A.
BERKELEY, CALIF.

The old problem of maintaining stock cultures of meningococci presented itself in our laboratory during the past year. An unusual demand for reliable control cultures has developed in connection with the detection of meningitic carriers in Army cantonments and naval training stations. The maintenance of a large number of cultures for preparing highly polyvalent antimeningitis serum has been a perennial problem of the manufacturer. The transportation of meningitis cultures presents especial difficulties. Cultures brought to this coast from New York on several occasions were sent by special messenger and, while they were on the way, fresh subplants were made at Denver, yet only a small proportion arrived safely. Another case of interest was observed in Dr. Wollstein's[1] work on parameningococci. A hurried journey was made to Paris by Dr. Louise Pearce to secure two cultures from Dr. Dopter, "since it was found that the cultures sent by post did not survive the journey."

The uncertainty of maintaining cultures on blood agar, starch agar, and sheep serum glucose agar slants led to an attempt to find a simple, stable medium in which the organisms might be kept alive with less difficulty. This has been accomplished by the use of various deep mediums, especially beef brain.

Many mediums have been devised for the cultivation of meningococci, on which they may remain alive a short while, or survive through several generations, and then suddenly die out, even with frequent transplanting. The question of viability presents a separate problem from that of artificial cultivation. With this in mind, Vedder's[2] suggestion as to the use of starch agar was taken up, but this necessitated frequent transplanting. Although gonococci and meningococci possess many similarities, this medium, which is suitable for the former, was not highly successful for meningococci. A modification was adopted, namely, the addition of 5 per cent. defibrinated rabbit blood, and in place of slant cultures, stab cultures, 6 cm. in depth, were made with some success. Roos[3] has devised a potato extract blood agar which in our work has maintained the cultures quite satisfactorily. Eastwood,[4] Griffith[5] and Scott[6] made cultures of isolated colonies of meningococci on solidified egg. As no formula was given, simple egg slants, solidified in the Arnold sterilizer, have been used in experimental work. One feature of this medium mentioned by Griffith is the viability of cultures for many weeks, and growth after seven months in the incubator at 22 C. This work has not been repeated in detail in these experiments, but the undoubted value of egg medium protected from evaporation has been determined at 37 C.

* From the Department of Bacteriology, University of California.

1. Wollstein: Parameningococcus and Its Antiserum, Jour. Exper. Med., 1914, **20**, 201.
2. Vedder: Starch Agar, a Useful Culture Medium, Jour. Infect. Dis., 1915, **16**, 385.
3. Roos: Culture Media for Maintaining Stock Cultures of the Meningococcus, Jour. Bacteriol., 1917, **1**, 67.
4. Eastwood: Meningococcus Carriers, Jour. Hyg., London, 1915-1917, **15**, 405.
5. Griffith: Identification of the Meningococcus in the Nasopharynx, Jour. Hyg., London, 1915-1917, **15**, 446.
6. Scott: A Study of Meningococci, Jour. Hyg., London, 1915-1917, **15**, 464.

I was led to test the viability of meningococci in sterile brain by the apparent affinity of these organisms for nervous tissue. While the experiments were in progress, a suggestion was made by Dr. F. P. Gay as to the value of chopped beef or liver prepared and sterilized in the same manner as brain medium. Some work has already been done with these two substances, and results show that the fundamental principle necessary for growth and viability is not contained alone in brain. The observations of Wherry and Oliver[7] on the adaptation to reduced oxygen tensions shown by gonococci and other bacteria, followed by the work of Cohen and Markle[8] on meningococci in partial tension cultures, lead us to conclude that the depth of these mediums has an important bearing on the viability of cultures both at 37 C. and at room temperature. It may well be also that the matter of moisture retention is equally important.

blood mediums, the results of which are shown in A and B of Table 1. The success of these led to comparative studies of deep brain, blood, and other recommended mediums, as shown in C of Table 1.

It is of interest to note in connection with the use of blood that Davis[9] made some special tests with defibrinated blood from normal persons and meningitic patients to determine its bactericidal effect. He found that the organisms lived in some normal bloods and not in others. He noted also that cerebrospinal fluid acted much like serum. Results of the tests with normal blood serum indicated that the organisms were dead from one to two hours after their preparation.

The deep brain medium, according to von Hibler,[10] is thus prepared: Beef brain is chopped fine, and one-third the volume of distilled water is added. The mixture is tubed in lots of from 12 to 15 c.c. and sterilized, preferably in the Arnold sterilizer, three

TABLE 1.—VIABILITY OF MENINGOCOCCUS CULTURES IN DAYS AT 37 C.

	Medium	Date Planted	Remarks	Cultures									
				1* 296a†		10* 296b†		30* 296c†		44* 297a†		60* 297b†	
				Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead
A	Deep brain	Nov. 16, 1917	Cotton plug until Feb. 1, then rubber cap	148	174	174	175	175	183	183	189	175	183
B	Deep blood, 5 c.c. only	Nov. 23, 1917	Paraffin plug until Feb. 1, then rubber cap	50	68	124	141	141	176	68	75	102	124
	Deep brain	Nov. 27, 1917	Rubber cap	181	...	181	...	84	92	46	57	181	...
	Deep brain	Dec. 12, 1917	Paraffin plug	166	...	78	105	78	105	42	57	122	163
C	Deep brain	Dec. 23, 1917	Rubber cap	138	149	138	149	138	149	156	...	156	...
	Deep blood	Dec. 23, 1917	Rubber cap	149	153	94	111	85	94	111	138	100	111
	Roos medium slants, 20% blood	Dec. 23, 1917	Rubber cap	156	...	156	...	156	...	156	...	149	152
	Roos medium slants, 5% blood	Dec. 24, 1917	Rubber cap	111	142	156	...	100	111	152	156	111	142
	Vedder's modified, stab, 5% blood	Dec. 23, 1917	Rubber cap	65	94	55	65	...	...	156	...	100	111
	Eastwood; egg; slants	Dec. 23, 1917	Rubber cap	94	111	94	111	55	67	94	111	111	142
	Deep brain	Dec. 31, 1917	Rubber cap	103	134	147	...	147	...	147	...	147	...
D	Deep beef	Feb. 5, 1918	Rubber cap	111	...	67	93	111	...	111	...	111	...
E	Deep liver	Feb. 19, 1918	Rubber cap	97	...	97	...	97	...	...	...	97	...

* Rockefeller number † University of California number.

TABLE 2.—VIABILITY OF MENINGOCOCCUS CULTURES IN DAYS AT 37 C., ROOM TEMPERATURE, AND ICEBOX TEMPERATURE

Medium	Date Planted	Temperature	Cultures									
			1* 296a†		10* 296b†		30* 296c†		44* 297a†		60* 297b†	
			Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead
Deep brain	Jan. 21, 1918	37 C.	122	...	122	...	122	...	122	...	122	...
Deep brain	Jan. 21, 1918	22 C.	22	36	65	82	82	90	16	22	16	22
Deep brain	Jan. 21, 1918	6-8 C.	22	36	...	...	22	36	22	36	22	36

* Rockefeller number. † University of California number.

In the experiments under consideration, five cultures, obtained by the Cutter Biological Laboratory of Berkeley from the Rockefeller Institute, were used. All are characteristic gram-negative diplococci, fermenting glucose and maltose in Dunham's peptone solution containing 5 per cent. rabbit serum. A polyvalent serum procured from Dr. J. G. Fitzgerald of Toronto agglutinated all the cultures in one hour at 37 C. in 1 c.c. of a dilution of serum of 1:10, with 1 c.c. of a suspension of organisms in phenolated saline. At the end of twenty-four hours at 8 C., all were agglutinated in a serum dilution of 1:100, with 1 c. c. of the organisms in suspension. The controls, containing 2 c.c. of phenolated saline with the organisms in suspension, remained unagglutinated.

Certain preliminary experiments were made to determine the viability of the meningococcus in brain and

successive days. Before we plant into this medium, it is customary in our work to transfer a loop of brain to agar medium and incubate twenty-four hours to detect any contamination.

In addition to deep brain, a deep blood medium was also used. Blood is obtained aseptically from rabbits by heart puncture, defibrinated and tubed in lots of from 12 to 15 c.c. The latter medium has been used by Miss Winegarden of the Cutter Laboratory, with considerable success, in keeping cultures over a long period. Deep blood is equally valuable, according to Miss Winegarden, for the preservation of pneumococcus and gonococcus cultures.

In the preliminary tests, the inoculated brain and blood mediums were placed in the incubator at 37 C., and subcultures were made at the end of twenty-four hours on agar slants containing 0.5 c.c. of defibrinated rabbit's blood. Following incubation of the slants,

7. Wherry and Oliver: Adaptation to Certain Tensions of Oxygen as Shown by Gonococcus and other Bacteria, Jour. Infect. Dis., 1916, **19**, 288.

8. Cohen, M. B., and Markle, Louis: A Method Which Greatly Facilitates the Culture of the Meningococcus, THE JOURNAL A. M. A., Oct. 28, 1916, p. 1302.

9. Davis: Studies in Meningococcus Infection, Jour. Infect. Dis., 1905, **2**, 602.

10. Von Hibler: Untersuchungen über pathogene Anaeroben, 1908, p. 85.

Gram's stains were made to confirm the purity of the cultures. At intervals the tests were repeated until the brain and blood (unfortunately in the preliminary test about 2 cm. in depth) were comparatively dried out. Feb. 1, 1918, broth warmed to 37 C. was added aseptically to the fast-drying mediums. The brain was restored to its original bulk. The blood, however, did not lend itself readily to suspension in the liquid. At this time rubber test-tube caps were placed on the tubes. Where pure subplants still develop, characteristic gram-negative diplococci are present. In all subsequent tests for growth and purity from other mediums, the same technic has been followed, except that precautions to avoid evaporation have obviated the necessity of restoring lost moisture.

Paraffin plugs were employed, but these are unsatisfactory. With constant use, the plugs became smooth and may slip down into the culture. They are also inconvenient to handle. Rubber stoppers were tried, but the opportunity for contamination was increased; both types, therefore, were discarded in favor of rubber test-tube caps, which are proving highly satisfactory. They last reasonably long, on exposure in the incubator; and, in comparison with paraffin, prevent evaporation very effectively.

It is of interest to note that successful subplants were made from relatively dry blood and brain mediums; but the results were rather irregular.

To obtain cultures for serologic work, it is preferable to subplant from the brain medium on to blood agar slants, incubate twenty-four hours, and subplant from these slants to fresh blood agar to secure suspensions of organisms free from brain.

So far, the brain and blood mediums compare favorably; but the ease of preparation rests with the former. When a large number of organisms are kept in stock, the taking of blood in quantities becomes a problem.

At the present time, cultures are being kept on several mediums, as shown in C of Table 1. From time to time, tests are being carried on to determine the viability and purity of the cultures kept at 37 C., and covered with rubber test-tube caps. The work has not as yet been concluded, but serves to point out the value of mediums recommended. In order to verify the original test on brain, we have prepared several sets of the organisms at various dates, the results of which are recorded in Table 1.

In the transportation of meningococcus cultures, it is highly desirable that viability be maintained at ordinary temperatures. Notwithstanding the remarkable resistance of the closely related gonococcus to low temperatures, as recorded by Lumière and Chevrotier,[11] it has been generally agreed and specifically proved by Flexner,[12] Elser and Huntoon,[13] and others that viability of meningococci at temperatures lower than 37 C. is very limited. Flexner's[14] more recent article emphasizes the same point of view.

That deep brain cultures remain alive for many days at lower temperatures, as shown in Table 2, is therefore highly important. There can be no doubt, however, from the tests, so far as they have gone, that even in deep brain cultures the meningococcus is of longer life at 37 C. than at room or at icebox temperature.

11. Lumière and Chevrotier: Sur la résistance du gonocoque aux basses temperature, Compt. rend. Acad. d. sc., 1914, **158**, 139.
12. Flexner, Simon: Biology of Diplococcus Intracellularis, Jour. Exper. Med., 1907, **9**, 105.
13. Elser and Huntoon: Studies on Meningitis, Jour. Med. Research, 1909, **20**, 377.
14. Flexner, Simon: Mode of Infection, Means of Prevention, and Specific Treatment of Epidemic Meningitis, Rockefeller Inst. for Med. Research, 1917.

EPIDEMIC OF GERMAN MEASLES IN A CITY ADJACENT TO AN ARMY CANTONMENT

AND ITS PROBABLE RELATION THERETO

J. C. GEIGER, M.D.
Assistant Epidemiologist, United States Public Health Service
LONOKE, ARK.

Much comment has been heard on the prevalence of measles in Army cantonments. German measles as a factor in disease incidence in troops has been more or less overlooked, with probably serious results. It is common knowledge that in the moving of troops, in the present selective draft and in the concentration of the National Guard for reasssembling to proper training stations and to complete permanent organizations, certain epidemiologic features of diseases prevalent among them have been overlooked along with the prescribed methods of interstate quarantine. As a result, diseases like measles and German measles have occurred in Army cantonments and have in many instances produced an increase and even caused epidemics of these diseases in adjacent cities. The absolute necessity for proper diagnosis and differentiation of the infectious diseases, particularly measles and German measles, if only for control, was evidently at first disregarded.

THE OUTBREAK

Beginning in October, 1917, local physicians reported a type of measles, later diagnosed as German measles, in North Little Rock, Ark., a city of 15,000 inhabitants, situated adjacent to Camp Pike, a large Army cantonment used for training drafted troops, and Fort Logan H. Roots, used at first as a concentration point for the mobilization of the Arkansas National Guard. Coincident with the increase of the disease in North Little Rock, measles was reported to be increasing at Camp Pike and Little Rock, a city of 75,000 inhabitants just across the Arkansas River. The presence of true measles in North Little Rock made differentiation comparatively simple, each case being investigated and followed to completion, and all available data compiled.

The interesting factors noted were:

1. The difference in the combined measles and German measles curves in separate communities, illustrating graphically the effect of differentiation and a simple method of control.
2. Recurrent attacks in cases of German measles in the same epidemic.
3. The occurrence of acute arthritis in many cases as a complication, and the absence of pneumonia.
4. The isolation of a hemolytic streptococcus from four cases of acute arthritis, and its possible relation to the streptococci in the true measles pneumonia.

EPIDEMIOLOGY

Attention is called to the combined measles and German measles curves in Camp Pike,[1] Little Rock and North Little Rock (Chart 1). It will be noted that though the height of the curve, which was reached in November in the epidemics in Little Rock and North Little Rock, were identical, the curve of Little Rock remained steady, while that of North Little Rock rapidly declined. This was undoubtedly due to differentiation and measures instituted for control, there

1. The Camp Pike curve was taken from the base hospital daily report of measles patients admitted.

being no determined attempt to do either in Little Rock. The height of the combined curves for Camp Pike were reached in December, and differentiation[2] began about this time. It is of unusual interest to

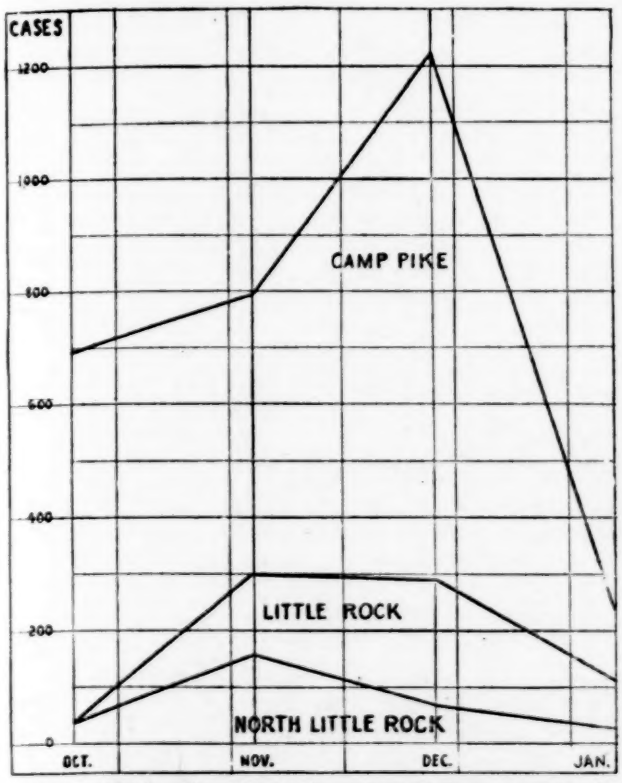


Chart 1.—Total combined cases of measles and German measles, Oct. 1, 1917, to Feb. 1, 1918.

note the separate curves of measles and German measles in North Little Rock (Chart 2). The similarity of the height curve shares in importance with the larger number of cases of German measles reported. Since the incidence of German measles was greater than measles in North Little Rock, then like conditions probably existed in Camp Pike and Little Rock, all things being practically equal. This offers an explanation for the height curve from Camp Pike not being reached until December, and the remarkably large incidence there, as patients with German measles could easily have been discharged while still in the incubation period of measles, with resulting cross-infection and new contacts and all their accumulative dangers. The contagiousness of German measles is said not to approximate measles. In schools in the classrooms of which fresh cases were known to have been from one to two days before being discovered, the resulting incidence in those exposed, each classroom being taken as a separate unit, averaged 12 per cent. The average incubation period in 173 cases was seventeen days, the shortest being eleven days and the longest twenty-one days. Recurrent attacks occurred in fifteen cases. In five, three separate distinct attacks occurred in a gradual lengthening period. For instance, in two cases, the second attack occurred three weeks after the first and was subsequently followed by a third attack, five weeks after the second. Only one of these persons was known to have been exposed to an active case before the third attack at a time not inconsistent with the known incubation period.

2. By personal communication.

SYMPTOMS AND COMPLICATIONS

In the majority of cases in this epidemic, no prodromal symptoms were noted, the eruption appearing without warning. The most constant symptom and one regarded as diagnostic was the enlargement of the superficial lymphatic glands. Koplik spots were never found. The eruption is rarely ever predominant, but there are always large confluent areas, best seen on the abdomen and the inner aspects of the limbs. The temperature may be above normal, but never higher than 101. German measles, heretofore regarded as the mildest contact disease, with complications infrequent, did not prove so in this outbreak. In thirty-six cases, acute arthritis occurred, recovery being most difficult. In four cases hemolytic streptococci in pure culture were isolated from much enlarged knee joints, one of which later presented a deformity fixation. In two cases, acute nephritis was noted, in one of which three months later there was still a transient albuminuria accompanied by an elevation of temperature. Endocarditis as a complication was noted in one case, and otitis media in eight cases. Pneumonia never followed any case in this series, and many patients could not be regarded as getting the best medical attention and nursing care.

CONTROL

The disease being regarded so lightly, no determined efforts of control were recorded. An attempt at control was made in this epidemic in one small school, situated in an average working class district, the entire control measures being based on the known average incubation period and medical inspection. Pupils of this school, reported ill, were excluded, and those diagnosed as having German measles were quarantined at home, but not isolated from the other members of the family. In ten families averaging three school members to the family, cases of German measles occurred. The other school members of these

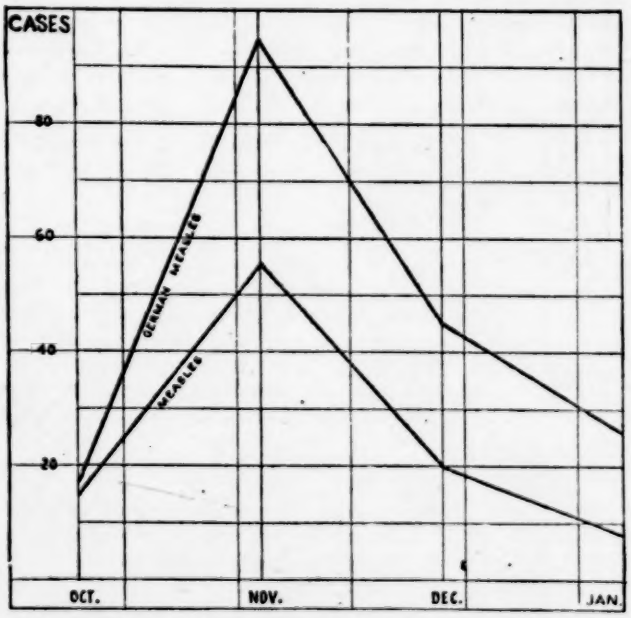


Chart 2.—Total cases of measles and German measles in North Little Rock, Oct. 1, 1917, to Feb. 1, 1918.

families not infected but being daily exposed to the cases in the homes were allowed to attend school up to the fourteenth day, when they were promptly eliminated for one week. No new cases occurred that

were traceable to the original cases excluded from school accordingly, and absentees were reduced to a minimum.

It is interesting to note here that the contagiousness of the disease in the foregoing families averaged 65 per cent. in contradistinction to that in the classroom, 12 per cent. No person should be released from quarantine without being clear of complications, and particularly until all glandular enlargement, the most consistent symptom, has disappeared.

Clinical Notes, Suggestions, and New Instruments

AIDS IN THE USE OF DAKIN-CARREL TREATMENT

MAX BORNSTEIN, M.D. (MILWAUKEE), CAMP GRANT, ROCKFORD, ILL.
First Lieutenant, M. R. C., U. S. Army

A GLASS AUTOMATIC SIPHON, FOR DELIVERING A DEFINITE AMOUNT OF FLUID TO THE WOUND AT A DEFINITE PERIOD OF TIME

This apparatus[1] is blown entirely of glass and fused into one compact piece. It is clean, handy and dependable. It can be made in different sizes, depending on the quantity of flushing required. The periodicity of flushing is regulated by a Hoffman pinch-cock on the tubing between the solution tank and the apparatus.

Two bells (*A* and *B*) annealed one to the other are connected by a siphon tube (*C*). A drip point is annealed into the upper end of the upper chamber. Both chambers have air vents.

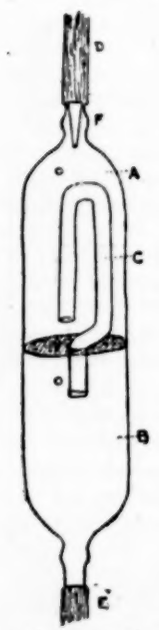


Fig. 1. — Glass automatic siphon, for delivering a definite amount of fluid to the wound at a definite period of time: *A* and *B*, upper and lower chambers; *C*, siphon tube; *D*, tube leading to solution tank; *E*, tube leading to Carrel tube; *F*, drip point.

The apparatus works as follows: Solution from an irrigating bottle or bag is allowed to pass a pinch-cock at a fixed rate. It accumulates in the upper chamber until it reaches the highest point of the siphon, when it suddenly is emptied by the siphon into the lower chamber. Here, by virtue of its height and its weight, it forces its way through the holes in the Carrel tube and flushes the wound. The flushing is periodic and eliminates the inconstant human element which is so often the cause of failure in the Dakin-Carrel technic.

A SUCTION DRAINAGE BELL FOR APPLYING DAKIN-CARREL TREATMENT IN EMPYEMA

This apparatus can also be applied, without the suction, in sterilization and drainage of the urinary bladder.

It consists of a flattened bell of glass, resting on a wide flange (*A*), where it comes in contact with the skin around the wound opening. At the upper end of one diameter are two small tubular openings (*B*) for transmitting the usual Carrel tube into the wound cavity. One of these may be used for flushing the bell and for cleansing. On the opposite side is a large tubular opening (*C*) for carrying off drainage, by means of a rubber tube into a waxed or rubber bag. Also, to this latter opening may be applied vacuum suction in empyema cavities by connecting with a vacuum water suction pump. The apparatus is held in position by a rubber dam fitted on the flange and by adhesive. By its use one can save large quantities of dressings, a very important item. It prevents secondary contamination of the wound, and permits instillation of neutral solution of chlorinated soda. It allows for drainage which seeps out beside the Carrel tube; and in the urinary bladder, it does away with that constant overflow of foul smelling urine. In empyema it permits the use of negative pressure to expand the lung and hastens obliterations of the empyema cavity. A Furniss rubber empyema spool is a valuable aid. It is made of glass; can be removed easily for cleansing and boiling, and can be as easily reapplied.

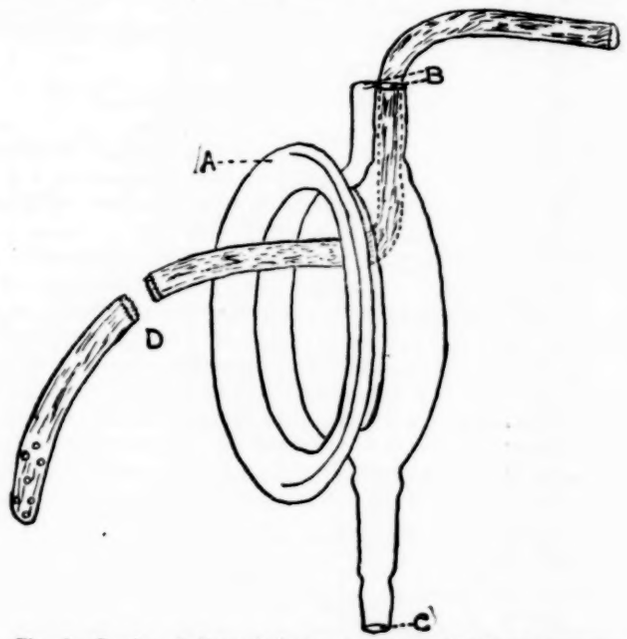


Fig. 2.—Suction drainage bell, for applying Dakin-Carrel treatment in empyema: *A*, flange on which bell rests; *B*, tubular openings for transmitting the usual Carrel tube into the wound cavity; *C*, large tubular opening for carrying off drainage; *D*, Carrel tube.

1. An apparatus improvised of syringe barrels and rubber tubing was described by Lilienthal in the February issue of the Military Surgeon.

SUCTION DRAINAGE OF SUPRAPUBIC BLADDER WOUNDS: DESCRIPTION OF A NEW PUMP

CHARLES W. BETHUNE, M.D., BUFFALO

One of the most unpleasant features of suprapubic bladder drainage is the constant saturation of the dressings with urine, together with the all-pervading odor, not to mention the present high cost of dressings. The patient's skin becomes excoriated, and he also suffers the discomfort of frequently lying in a puddle if the attendants do not promptly change the saturated pads.

Numerous attempts have been made to remedy this with various ingenious suction devices, the first of which I believe was Dawbarn's. Davis[1] uses a vacuum bottle arrangement; Hume, Logan and Kells[2] an electric pump with an alarm clock switch; Wallace[3] an apparatus invented by Edmund White, resembling the Dawbarn. All of these appliances have faults which I have tried to obviate. Dawbarn's and White's require the bringing of several gallons of water to the pump daily and the removal of an equal amount. Davis' requires an air pump to produce the vacuum, and a very tiny perforation in the rubber tubing puts the pump out of commission. The pump of Hume, Logan and Kells is dependent on the electric current and costs four times as much as mine. So far as I know, Dawbarn's has been abandoned.

As the diagram shows, my apparatus consists of 2 gallon carboys held necks opposite with the long axis in the same line by a frame pivoted at the middle to a stand. The top bottle, *A*, is filled with water to which 1 teaspoonful of

1. Davis, E. G.: Vesical Drainage, THE JOURNAL A. M. A., May 27, 1916, p. 1680.
2. Hume, Logan and Kells: An Improved Automatic Suction Apparatus for Suprapubic Cystotomy Operations, Am. Jour. Surg., June, 1916.
3. Wallace, Cuthbert: Prostatic Enlargement, p. 150.

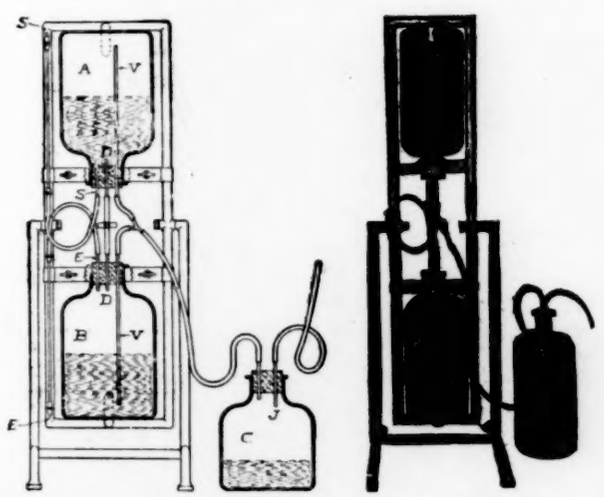
phenol (carbolic acid) is added to prevent the formation of fungi. The water drips through Tube D, on which is a drip clamp, into Bottle B, at the rate of 5 drops per second. A negative pressure is formed in the top of *A* which is transmitted down Tube V to the collecting bottle, *C*, the water in the bottom of *B* forming a valve and preventing the vacuum from being lost. Tube E forms an outlet for the air in *B* displaced by water dripping into it. A similar tube, *S*, forms a safety valve for *A*, and when the negative pressure in *A* and *C* exceeds 14 inches of water or about 1 inch of mercury, admits air into *A*, preventing too strong a vacuum.

When the top bottle is empty, which takes about eight hours, the bottles are reversed by turning them on the axle, when *S* assumes the function of *E*, and vice versa. The bottles lose a small amount of water from evaporation through *S* and *E*, and require replenishing about every eight weeks. To do this or to fill them in the beginning, a funnel is attached to Tube S by a rubber tube and the liquid poured in from a pitcher; or after the tube is full, the distal end is placed in a pail placed above the pump, and allowed to act as a siphon.

All parts of this pump except the frame are made from articles obtainable in any city or hospital, and in case of breakage can be replaced anywhere. Owing to unfortunate experiences in having two instruments of my invention appropriated by others as their own invention, I have applied for a patent for this pump.

My pump is self-contained and needs no accessories to operate it, is independent of all running water, air pump or electricity, and all the attention it needs is reversal of the bottles every eight hours.

The pump should be placed between the head of the bed and the wall. The tube from the Y on *V* to *C* should be about 6 feet long, and at some point elevated above the level



Apparatus for suction drainage of suprapubic bladder wounds.

of Bottle A. This is best done by a loop of string attaching it to the top of the bed. The tube then runs down to *C*, placed on the floor under the bed beneath the patient's pelvis. A small catheter is inserted in the suprapubic wound and fastened to the skin by several strips of adhesive plaster. This is attached to a tube running down hill to *J* so that the only suction necessary is to draw the urine from the bladder up over the level of the abdomen.

Voluminous dressings are to be avoided, as they prevent air from entering the bladder to replace the urine sucked out. Two or three layers of gauze are sufficient. If a heavy pad is used, the bladder is apt to become distended with urine. Then it will well up through the wound alongside the tube before suction starts.

When granulations hug the catheter tightly it should be removed. The wound usually will close in a few hours if the wide strip of adhesive plaster is put over it tightly, pressing the lips together.

In the majority of cases the wound has closed in two weeks. Some have taken three, one four and one six weeks. Two very debilitated patients died in the eighth week with the wound still draining.

Causes of Failure to Secure Satisfactory Suction.—If the safety valve continually blows, the catheter may be stopped up; the drippings at *D* may be too fast; the suction tube may be kinked, or the suction tube may collapse through being made of too soft rubber. If the pump is working but no urine drops into *C*, the suction tube leaks; one may determine the point of the leak by beginning at the catheter and pinching the tube at intervals; when the safety valve blows, the leak must be distal to this point; or the catheter may have slipped out of the wound, or the cork of *C* may be loose.

When the pump is operating, the water in the safety valve is continually jumping up and down, and drops of urine are falling into *C* every few seconds. Care must be taken that Tube J projects into *C* lower than the other tube, or urine is apt to be caught up and pulled into the pump. If water is pulled from the pump into *C*, the long tube from *V* should be elevated more where it passes the head of the bed.

This pump has been in use for two years at the Sisters of Charity Hospital as well as by several urologists and general surgeons, and has been found uniformly satisfactory.

By clamping the safety valve and opening *D* fully, the apparatus is very satisfactory in nose and throat operations or wherever suction is used in operating. It has also been used with success by Dr. E. J. Meyer in draining empyemas. The pump is manufactured for me by Sands and Levy of Buffalo, N. Y.

520 Franklin Street.

Military Medicine and Surgery

THE ARMY IN RELATION TO THE TUBERCULOSIS PROBLEM *

GEORGE E. BUSHNELL, M.D.
Colonel, U. S. Army, Retired
WASHINGTON, D. C.

In the early part of the year 1917, just after this country plunged into the great war, there was much anxiety expressed as to tuberculosis among our soldiers. The view held seemed to be for the most part that the health of the soldier undergoes deterioration as the result of his military service such that he who enters with an inactive or concealed tuberculosis might be expected to develop an active and serious form of the disease. Many papers were written which took this alarmist view and recommended that the extremest care be expended in examinations with a view to the elimination from the army of all those who exhibited the slightest signs even of old and completely healed tuberculosis. The assumption here evidently was that all soldiers had been submitted to an examination adequate to detect all active forms of the disease, so that tuberculosis, if found to exist at a later time, must have developed as a result of army service. Unfortunately, however, those conversant with the facts were willing, however reluctantly, to admit that this was not necessarily the case; that, given the hurry and confusion of hasty enlistments and the varying skill of the examiners, it was quite possible that some men, even many men with tuberculous disease, might be admitted as sound into the ranks of the army. The existence of tuberculosis in the army is,

* Jerome Cochran Lecture, read before the Annual Meeting of the Alabama State Medical Association, April 17, 1918.

therefore, by no means necessarily evidence that army life in itself favors the development of the disease.

We have, then, two views to consider: First, army life per se exercises an unfavorable effect on healed tuberculous lesions and awakens active tuberculosis very easily so that the tuberculosis of the soldier develops as an active disease after entrance into the army in the persons of those who were practically well at the time of such entrance. Second, that the tuberculous soldier brought his tuberculosis in an active stage with him into the army. He should have been excluded on the entrance examination but was not; the active disease was there from the outset, and the progressive nature of the affection which finally led to its detection was only what might have been expected when a sick man was subjected to fatigue and exposure.

Which of these two views is the correct one? The answer must be that neither one is absolutely correct. Some men will develop tuberculosis though apparently free of the disease when examined for admission. The first view has, therefore, something in its favor. But the percentage of such cases, what is called the unavoidable percentage, is very small. Measures adopted to forestall such developments are useless, because the cases cannot be detected in advance, and, moreover, harmful because tending to the exclusion of many men perfectly fit to become soldiers. Practically we may say that if an army develops much tuberculosis this is due to the fact that the men brought with them the disease in an active form when they came in from civil life. The remedy, then, is evidently an examination which shall be efficient enough to exclude manifest cases of tuberculosis but which shall not regard the old and circumscribed evidences of slight impairment of the pulmonary integrity. It was an examination of this kind which was instituted and carried out on our troops during the fall and winter of 1917, the examinations, however, not being completed until the spring of 1918. In round numbers, 930,000 men were examined, and 7,500 cases of tuberculosis were detected as the result of this examination. It is not claimed that the examination was perfect. Some cases, no doubt, were overlooked that should have been detected, and some were excluded from the army who were perfectly able to serve. Mistakes must occur when large numbers of examiners go hastily over enormous numbers of soldiers. But the aim was to get rid of as many cases of manifest tuberculosis as could be detected in an examination so rapidly performed as not to interfere too much with the all-important training of the troops rather than to delay matters by seeking a perfection unattainable under the difficult conditions. That 7,500 cases of tuberculosis were removed is a cause for satisfaction. However many cases may ultimately develop, it is at least certain that the total is less by 7,500 cases than it would have been if there had been no reexamination.

THE ARMY AS A FIELD OF STUDY

The army is a good field for the study of some problems. The conditions of life are comparatively simple and the large numbers concerned give a value to the statistics greater than those derived from the much smaller number of cases available, as a rule, for study in civil life. Unexpected light has been thrown on the questions which we have just considered by the experience of the French army. As you may recall, the distinguished French physician, Landouzy, announced that 86,000 French soldiers had been invalided on account of tuberculosis in the first year of the war. This announcement was received with dismay in this country. It served as a text for the pessimist, and seemed to warrant gloomy forebodings as to the fate of our own soldiers. But new light has recently been thrown on this subject. The French minister of war reported that of this 86,000 men, considerably less than one-half have been found on revision to have tuberculosis. And there are not wanting those who claim that of this fraction a very considerable percentage has really no active disease, so that of the 86,000 barely 20 per cent. are really tuberculous. And here is an important fact. Landouzy himself states that, as a rule, those who were found to have an active tuberculosis had brought the disease with them into the army. We have thus an unexpected corroboration on a large scale of the view expressed above. Army life is not especially favorable for the development of tuberculosis. Those soldiers who enter as sound men have every reason to expect that they will not develop tuberculosis as a result of their army experiences.

Another fact brought out by the war is worthy of note in this connection. We are accustomed to hear the view expressed without contradiction that chronic semistarvation necessarily develops tuberculosis in a large number of its victims. Consequently we were all prepared to expect an enormous incidence of tuberculosis among the half-starved French prisoners of war in Germany. The Swiss doctors predicted that 30 per cent. would become tuberculous. But experience shows that while in some groups the percentage of tuberculosis has been considerable, in others the percentage in those returned is extremely small. According to recent advices, among 175,000 repatriated French civilians who had been held as prisoners, the percentage of the tuberculous was only 0.6. This remarkable showing seems to prove that even under the most unfavorable conditions a life in the open air prevents tuberculosis from exercising a dangerous sway.

We have reached the conclusion that a serious incidence of tuberculosis in the army would mean that tuberculous men had been admitted to it. The fact would discredit the professional expertness of the army surgeon rather than the hygiene and health conditions of the army service. An important lesson may be drawn from this fact which may serve to quiet some anxieties.

CONTAGIOUSNESS OF TUBERCULOSIS

You have been told that tuberculosis will develop under the conditions of army life and that there is danger of the disease being communicated from the sick to the well; that each tuberculous man is a potential source of infection to those around him; that consequently he should be isolated at once and eliminated from the hospitals of the mobile army at the earliest possible moment. I have sometimes thought that the ease with which the program of examination for the enormous masses of men of the army was put through —appalling task as it seemed at first sight—was to be explained by the prevalence of the notion that we must be rid of the consumptive, not so much because he is a weak link in the chain, not because he occupies a place that should be filled by a fighting man, but because he will spread disease among the well. There is some advantage, then, in this idea if it has enabled

the useful work of reexamination for tuberculosis to be carried out. But though this advantage has been reaped, it is certainly well to revise our notions as to the contagiousness of tuberculosis. Everybody knows that doctors and nurses labor for years in closest contact with the consumptive, yet it is rare for them to develop tuberculosis in their own persons, and we have all seen many a delicate wife or mother tend a dying husband or son without contracting the disease. We have to admit that many are immune, however great their exposure. But on the other hand, there are cases in which both husband and wife have consumption, or in which those who occupy the same room or work at the same bench with a consumptive finally are found to be themselves infected. We do not stop to think that with a disease as common as tuberculosis it must frequently happen that cases of the disease will develop simultaneously without being derived one from the other, that a man who had or was going to have consumption might marry a wife doomed in advance to the same fate, or that if conditions of health, food, ventilation, etc., were bad enough to break down the health of one worker, they might be bad enough to have the same result with his neighbor. We do not stop to think of these possibilities, but instead we say that consumption is contagious, and the proof of the fact is that our neighbor died of consumption and his wife has caught it from him, the man who worked next to the consumptive in my factory has got the disease from him, etc. A great deal of perfectly preventable distress has been due to the alarmist's attitude toward the question of contagion of tuberculosis. The really cruel persecution of the consumptive, who is driven from his house and from his position through the fear that he will infect others, is based on what I must characterize as highly exaggerated notions of the danger of such infection. All admit that some are immune to infection; the question is, Are there others who are readily infected, and is this class a numerous one? The prevailing view is that the danger is so great as to justify the most stringent measures to abate it. A few with whom I must class myself believe that the danger is very small, so far as infection from adult to adult is concerned, and really demands preventive measures only in the case of young children.

I wish that time would permit me to set forth in detail the scientific reasons on which this opinion is based, but that is impossible. I must content myself with inviting your attention to the declaration of Landouzy. Years have elapsed since his 86,000 consumptives were weeded out of the French army. There has been time enough to judge of the end-results of their presence in the ranks, and on sober second thought the decision is reached that the consumptive brought the disease with him into the service. There appears no evidence that the disease developed frequently, at least after entrance into the army. Consequently we draw the conclusion that the disease could not have been communicated to any considerable extent, to say the least, from one soldier to another. Here is an experiment on a large scale; thousands of consumptives were put in closest contact with millions of healthy men, and the result after four years is that it cannot be shown that such proximity did the well men any harm.

RELATION OF MEASLES TO TUBERCULOSIS

We may, therefore, be reassured as to our army, so far as fear of spreading the contagion of tuberculosis is concerned. The soldier who enters the service in good health runs very little risk of acquiring tuberculosis from association with his fellows. There is, however, unfortunately a darker side to the picture which we in our zeal for the whole truth must not overlook, namely, the relation of measles to tuberculosis. Wherever large bodies of men are brought together, measles seems to break out. The disease is relatively insignificant when it seeks to attack the city dwellers. Most of them have already had measles and are immune. Not so among the country boys. Regiments made up of men from the farms have been severely tried. Many men have died of pneumonia following measles, and in some tuberculosis has developed as a sequel, showing the strange relationship that exists between the two diseases. In order to develop the facts and to lose no time in the treatment, orders have been given that all soldiers who have had measles shall be examined twice at intervals of a month to ascertain whether or not tuberculosis has developed. It has been found as a result of these examinations that of 5,945 measles patients reported as examined, 173, or 2.91 per cent., have developed an active tuberculosis. Here it is not a question of the transmission of tuberculosis from one to another, but of the reawakening of a latent tuberculosis as a result of the infection with measles. It should be added that it is probable that the number of really tuberculous cases is less than the foregoing figures would indicate, that some of these cases classed as tuberculous are rather cases of as yet unresolved pneumonias; but on the other hand, no doubt, not all cases of tuberculosis reactivated by measles have yet been detected. There again is an experiment on a large scale, which we will hope will prove in the end to have resulted more favorably than the facts now available would seem to indicate.

RECONSTRUCTION OF THE TUBERCULOUS SOLDIER

Tuberculosis having been found to be present in an active form in a given case, what shall be done with the soldier? The answer that many have given is to retain him in the service and "reconstruct him." Many brains have been actively engaged in plans for reconstruction hospitals and workshops and for apparatus to be used in the work. The term has been most employed by the surgeon. It includes the restoration to function or the teaching of new function of maimed extremities; the recovery of some degree of comeliness in faces with horrid deformities from wounds; exercise to keep or regain the activities of wounded nerves or muscles, which as soon as possible is obtained through some useful form of labor, and the teaching of new trades suited to the altered capacity of the worker, sometimes even the development of unsuspected abilities to do more excellent and better paid work than the man has ever done in his days of health.

The wounded man who has been reconstructed in the widest sense has been made over to some extent both physically and mentally, and consequently we may hope is morally aided as well. This is certainly a noble aim; yet, if we judge from the results in similar work abroad, one that we may reasonably hope to attain if our efforts are wisely guided.

As applied to tuberculosis, however, the problem of reconstruction, while it is similar, is yet really more difficult than it is in surgical cases. Here there is no question of repair to injuries: the tuberculous soldier has all his members intact. But whereas in surgical

cases the effort is to set the patient at work at the earliest possible moment, in tuberculosis our aim must be at first to keep the patient still, to prevent him not only from working but even from moving about. And it may be necessary to continue him in this state of inertia for many months in some cases, if good and permanent results are to be attained. All the preconceived ideas of the patient, and in many cases the restlessness characteristic of the weakened nervous system of the consumptive, militate against the notion that prolonged rest in bed is needful or even desirable. To be successful in carrying out such treatment, it is necessary to instruct and to persuade. The physician must have faith in the treatment and a real interest in the patient's welfare if good results are to be attained. Not only does the physician study the patient, the patient studies the physician as well. In his daily visits, the physician is weighed and judged. The patient soon knows whether the physician really believes what he says, whether he really cares to cure, or whether, on the other hand, his words of admonition and counsel are merely the perfunctory words of an official paid to perform a task in which he has no real interest. The physician must therefore have zeal in his work and a persuasiveness which succeeds because based on a true desire to help, and a belief in the efficacy of the means employed to cure. But more than that, he must be well grounded in the pathology of tuberculosis and be able to teach the patient from such a fulness of knowledge that it inspires faith in his teachings. The tuberculosis hospital or sanatorium should be a school for the education of the patient in the right way to live. But where a course of life extending over years is the thing taught, it is necessary that the patient shall know the reasons for the precepts given him. The *ipse dixit* of the physician may suffice for the moment. Its effect will fade in years to come. The facts on which the treatment of tuberculosis are based are not difficult of comprehension unless beclouded by a technical vocabulary which the patient cannot understand. Explain to him the reasons in a simple language, convince him of your interest in his welfare, and in many cases you will make a convert.

Some of the patients, however, will not be convinced, will not do well under treatment, and may seek an early discharge because restless and unhappy. A better result is not attained among those presumably more easily taught because more educated and of higher intelligence. Docility of the patient is one of the most important prerequisites of success in treatment, and a certain percentage will always be found indocile. In those who submit with good grace to the treatment, the danger exists on the other hand that the enforced idleness may become demoralizing, that having become accustomed to a life of repose the patient will shrink from the idea of resuming a life of labor; and when the time for work has come will demand his discharge in preference to undergoing a course of instruction, though that be calculated to fit him in the end for more and better work than he has ever before accomplished. The methods of instruction mentioned a moment ago are, in my judgment, the ideal methods. It can hardly be expected that the results attained by all physicians with the hundreds, if not thousands, of such patients will reach these ideals: and even the best instructed and most docile, when they pass from under the influence of their physician, will be tempted to stray from the course of life prescribed or become restless and desire a change of scene.

The old pension system was demoralizing to a certain type of men in that it enabled the pensioner to live without work. Fortunately, by the act that created the Bureau of War Risks, it is provided that those who serve in the present war will not be subject to the pension laws but will have a compensation in case of injury or disease which will be determined by the War Risk Board. Now if this compensation is arranged so that one who remains in the service will be better paid than one who receives discharge and returns to his home, it will be possible to retain the patients in the military service and under treatment. If this is not arranged, I believe that the majority of the patients will in the end seek discharge; and if they desire discharge, they must be given it. In this event the program of reconstruction will be carried out but partially and imperfectly. I wish to emphasize the conviction gained by many years of experience with this class of soldiers that unless it is made pecuniarily profitable to remain in the service, the majority of the tuberculous will sooner or later prefer to be discharged and return to their homes rather than to submit to a course of treatment, even though this treatment aims at and often succeeds in effecting a permanent cure. The heart of the philanthropist glows at the thought that a generous nation is willing to keep on its payroll soldiers who can never again fight on its behalf, that it expends large sums in providing means by which these unfortunates may be cured of their disease and trained to work, or if the conflict goes against them, may be furnished an asylum in which they can spend their last days in peace. But if we are to practice philanthropy successfully, we must know the world as it is, not as we could wish it to be. These patients are not, as a rule, philosophers and sages. They know little or nothing of the treatment of tuberculosis or of the results that are to be expected from it, or of the way in which such results may be obtained. Yet many of them prefer to follow their own judgment rather than listen to advice. Such men pass quickly from an unfounded optimism to its opposite, an equally unreasoning pessimism. They wish to go home today, because they are doing very well and they can pursue the treatment to equal advantage there. Tomorrow, perhaps, they will say that it is of no use to persist in the treatment, that they are not gaining in health and that they might as well go to their homes and get such pleasure as they can from what remains to them of life. Not only the weaknesses but also the best emotions of the human heart are enrolled on the side of the opposition. The love of the patient for his family, the yearning of the wife or of the mother for the husband or son are so many cords drawing him away from what we conceive to be the path of duty. We cannot blame him if he yields; only the careless or the recreant could be insensible to such pleadings. Yet they are the voice of the siren, nevertheless, enticing him to renounce a future good for a present enjoyment. The real love for wife or mother would say: "You are dear to me, and therefore I cannot come. I love you so much that I must stay and try to save my life for your sake. I must forget you in the present in order that I may enjoy you during a long future." There is a wisdom and a moral heroism in such a resolve which commands our respect. Would that we could affirm that so heroic a determination is invariably rewarded by

the success it deserves. It is sometimes a bitter thought to the physician who has persuaded the patient to stay, that he has been responsible for keeping a patient uselessly under treatment and of thus depriving him of the loving care that friends would have lavished on him if they had been allowed the chance. Here the only consolation is the thought that so far as could be determined at the time, the decision made was the correct decision even though the result was ultimately disaster, and that the unfortunate patient gave a better proof of his affection by remaining to fight than if through weakness he had given up the conflict. But what an incentive for the physician such an event is, to give the best efforts of which he is capable in order to understand, so far as fallible man can, the nature of the disease he is seeking to combat!

UNTHINKING PHILANTHROPY

The philanthropist himself is sometimes inclined to interpose with benevolent motives to ask for action which is really to the prejudice of the patient. Thus a priest implored the hospital management in the name of God to release a patient who lived in comfort in the balmy air of the Southwest in order that he might go in the dead of winter to a bleak district of the North and to a humble home destitute of all suitable accommodations for a sick man.

Now that we are speaking of the philanthropist may I be pardoned for a slight digression? It is this: A surprising feature in many interested in philanthropy is their apparent lack of civic conscience. It is the fashion today to spend money with a lavish hand for all sorts of good things, perhaps sometimes to spend more than the goodness of the thing really warrants. When the reaction comes and taxes grow irksome, as they become more familiar, there will be a day of accounting; and in that day the size of the pension list or, more accurately, the list of those entitled under the present law to compensation will be one of the numerous things that will be severely criticized. The regular army officer brought up in an economical school has striven to diminish, as much as in him lay, the size of this list by seeking to exclude from it those who had entered the army through some oversight with tuberculosis contracted long before, a condition therefore for which army service could not justly be held accountable. This laudable effort to help the future taxpayer has, however, encountered the most strenuous opposition on the part of various philanthropists, many of them women. Though the man whose cause they champion had been in the army only a month before his disease was discovered, and though that disease was of the most chronic type, they are quite sure that the poor man had been perfectly well until he left his home and entered the army, and that the exposure of army life had certainly been the cause of all his troubles and that the government should without any doubt be required to support him.

Even the philanthropic life has its drawbacks. How different is reality to the dreams of the unthinkingly benevolent in which all the good is on one side and all the bad is on the other, and it is perfectly easy to determine what the proper course is. Such considerations, however, should not discourage philanthropy, but rather inspire caution in the practice of it. Philanthropy can be truly benevolent and altogether beneficial only when those who would benefit their fellow men are willing to make an exhaustive study of the conditions.

Physicians are constantly seeking new and infallible means of diagnosticating disease. Very often a discovery is heralded as a means of establishing a certain diagnosis in some morbid state. But almost always when the first enthusiasm abates it is found that, after all, there are exceptions. The new sign or reaction is not absolutely pathognomonic. There never will be a time when a physician can practice his profession with scientific success without the use of all his brains and all his acumen. And it is very much the same way with philanthropy. Measures which seem beneficial may produce evils. What is best for one class at one place may not be best for all classes at all places. There is no easy way of always deciding what it is best to do.

PREVENTION OF TUBERCULOSIS AMONG CHILDREN

It is a pleasure, therefore, to be able to point out one philanthropic measure which is too much neglected for other measures really of much less importance, yet with regard to which there can be no doubt that it is a long step in the direction of abating the scourge of tuberculosis. I refer to the prevention of tuberculous infection among young children. I have expressed a doubt as to the seriousness of the danger of infection for the adult who has already come into contact with the tubercle bacillus. There is no question, however, that so far as the young child is concerned, where there is virgin soil for the tuberculous infection, tuberculosis is as infectious as measles. In civilization it must needs be that infection with tuberculosis come sooner or later to all; but it is important that the infection shall not come too early in life, and of the utmost importance that when it does come the size of the infection shall be small and that it be not frequently repeated.

Another measure of perhaps equal importance is the enforcement of the best conditions of hygiene as respects fresh air and sunlight and food for the growing child in order that it may have strength to master the small infection and convert it into a beneficent vaccination instead of permitting it to grow till it becomes a life-long menace and too often a source of death. It cannot be pointed out too often that in spite of our neglect of elementary precautions, the majority of our population nevertheless succeed in obtaining unconsciously that beneficent vaccination so that no matter the exposure, they do not acquire a clinical tuberculosis. What we must do by our philanthropy is to devise means whereby the unfortunate third or fourth of our race who are now not so successful in their struggle against the enemy may be enabled to join the more fortunate majority until the percentage of active tuberculosis becomes reduced to an insignificant fraction and finally vanishes entirely. Given wise philanthropy which persists in its endeavors, this is no utopian dream. Whether tuberculosis as a menace and a drain on society shall be eradicated or not depends on the care which shall be extended to the coming generations of children still unborn. To abolish the slums, to improve the housing conditions in general of the poor, to teach proper cookery, proper selection of foods and the benefits of fresh air, sunlight and cleanliness is to hasten the advance of sanitation along the road on which progress has already been made from generation to generation. Tuberculosis is already slowly diminishing in prevalence as a manifest disease in most countries. We can do much, however, to hasten its disappearance by our

organized philanthropy if wisely directed. Yet all these means will fail to attain what we could wish unless we add one additional measure, the segregation of the infant from sources of contagion. The French have seen the light more distinctly than other nations. In France the formula is: Either remove the young child from the presence of the consumptive or the consumptive from his family, if there are young children. The child must by all means be prevented from receiving the massive infections which it is sure to get if it lives with the coughing consumptive.

Here is a definite program, but what a difficult one, for against it are all the impulses of the most sacred affection, the love of parents for their children. This brings us back to the consumptive soldier. At the beginning of the war it was recommended that the tuberculous should be returned to the vicinity of their homes for treatment in order that they might visit their families or that their families might visit them. This I call unthinking philanthropy. Often it is true such visits might do no harm, but the distinction between harmless and harmful is not clearly made. The new baby will infallibly be brought along for the father to see it, unless education is vigorously instituted in advance of the father's return. What an advantage for the children if the father cannot come home to them! How much higher the moral elevation of the man who is taught to sacrifice his paternal yearnings to the best interests of his children, than that of him who cannot consent to live without his family! There is much to be effected in this direction by careful instruction of the consumptive and of the adult members of his family. But what shall be done with the minority of the careless and the wilful—those who cannot or will not understand, the weaklings who are ready to sacrifice the welfare of their infants to their own selfish longings? Shall they be restrained by the hand of the law or shall their children be taken from them to be cared for in public institutions? The French say, yes. What shall we say when the question must be met? Do we recognize sufficiently that true philanthropy sometimes hides behind a mask of sternness?

CARE OF CONSUMPTIVE SOLDIERS AND THEIR FAMILIES

Nothing could be finer than the spirit of our people in these sad times. Nearly all are anxious to help in some way, feeling that they must do something for their country. Sometimes there is the regret on the part of those who must stay at home that there are not more numerous ways in which they can do something really useful and sacrifice their ease and pleasure to some good purpose in the cause of patriotism. Intelligent cooperation in the care and management of the wounded and sick soldiers and in providing for their families is one of the directions in which the energies of the charitable can find an outlet. I bespeak your interest and sympathy for that peculiarly unfortunate class, the consumptive soldiers and for their families. Would that I could hope that my words have thrown some light on the difficult problems which must be met in the sociological study of the tuberculous and in practical benevolence as extended to them.

It is commonly remarked that this terrible and gigantic war has changed the world. We shall never again be the same people. The moral uplift of the present is unmistakable. We are willing to sacrifice ourselves now for our country. May we not hope that this patriotic devotion, this moral uplift, will continue after the war has ended? We are willing now to get together, to labor in unison for our soldiers. We are willing to work at hard tasks, without compensation oftentimes, in order that the business of the country may cooperate to the best advantage with the fighting force. Why should not this organized effort continue after the war? Our country is no less our beloved country because peace has come. Why should we not put our team-work in which we are now so experienced at the disposal of the noble cause of philanthropy, see that the poor are not oppressed, know what goes on in our jails, our asylums, our workhouses, elevate the submerged fraction of the population, and abate the causes of disease and accident. His army experience is but an episode in the life of the tuberculous soldier. He, as a rule, owed his tuberculosis to the conditions of civilian life before he entered the army. The tuberculosis of the army merges into that of the whole population. The great problem of tuberculosis will remain after our army has laid down its arms as one that calls for all our efforts, yet is, we may confidently believe, a problem for which in time we can, we must, find a triumphant solution.

WAR EDEMA (KRIEGSOEDEM)

F. S. PARK, B.A., M.B. (TOR.)
Captain, C. A. M. C.; Former Medical Officer, Fourth C. M. R.
TORONTO

From June, 1916, until February, 1918, I was a captive in the hands of the Germans, and for the most of that time I was employed as medical officer at Minden, one of the largest concentration camps for prisoners of war in the province of Westphalia. During my thirteen months there, many thousands of prisoners of all the Allies passed through our hands. One of the most prevalent diseases observed there was the condition called by some German observers *Kriegsoedem* (war edema), or, as it was officially known at Minden, *Erschöpfungszustand mit oedem* (state of exhaustion with edema).

ETIOLOGY

The condition was found chiefly among the Russians and Roumanians, and was especially common during the spring and summer of 1917. Latterly, the Italians captured in the autumn of 1917 were the chief sufferers. The French prisoners at reprisal camps and the English prisoners, who were kept working on lines of communication, also suffered from the disease. In other words, this disease was found among those prisoners who received only German rations, and the disease was most prevalent at the time when the German rations were poorest, that is, the spring and early summer of 1917. During my stay at Minden, I saw about 400 cases in all.

Undoubtedly, insufficient food is the cause of the condition. The German ration is very low in protein and is almost fat free. Unfortunately, accurate analyses could not be made. As the food is given almost entirely in the form of soup, a large quantity of fluid is ingested to obtain a small amount of nourishment. I found that many of these men were in the habit of taking considerable quantities of common salt in solution in addition to their soup. As the whole organism was weakened from insufficient food and

hard work, it is conceivable that the extra load of fluid was too great to be eliminated.

CLINICAL HISTORY

The condition commences as a slight edema of the feet and legs, disappearing when the patient is recumbent. Patients were seldom admitted to hospital in this stage, although rest in bed would restore them in a short time.

The usual type admitted to hospital presented a massive edema of the legs, thighs and genitalia, with some puffiness of the eyelids. In bad cases there was edema also of the chest and abdominal walls. Patients complain of general weakness and pain in the legs, especially in the tibiae. They are usually very apathetic. There is extreme muscular wasting and marked pallor. The whole appearance is strikingly similar to that found in chronic parenchymatous nephritis. Uncomplicated cases are afebrile.

The heart dulness is slightly increased to the left. The apex beat is diffuse and feeble. The heart's action is regular, but usually slow. Muscular tone is poor. The blood pressure is low.[1] Hydropericardium was present in a number of cases, but never marked.

Hydrothorax was common and usually bilateral. It was sometimes most copious. In one case I removed 15,000 c.c. by a series of six punctures during a space of two weeks.

Ascites was very common and was sometimes extreme, necessitating paracentesis.

The liver, spleen and kidneys were not palpable.

The amount of urine was variable. At first scanty, it became profuse, as the patient recovered. It never contained albumin or casts. No quantitative chemical tests could be made.

COURSE OF DISEASE

In most uncomplicated cases the patients improved slowly with rest in bed and an increase of German rations. Where abundant food, including meat and fat, could be obtained and was tolerated, improvement was rapid, even without rest. Digitalis and theobromin sodiosalicylate were used, but without appreciable result. Edema of the legs after work persisted for several months, even after the patient had improved markedly in general strength. Relapses were common.

COMPLICATIONS

Dermatitis of the legs was common, and in a few cases lymphangitis and cellulitis.

Bronchitis frequently was present, and in most of the fatal cases there was bronchopneumonia and edema of the lungs.

Colitis, with mucus and blood in the stool, was the most common and troublesome complication. No specific organism was isolated as a cause of this colitis. It is significant that diarrhea of this type rarely occurred among the well-fed prisoners, although they were exposed to the infection, if this was an infectious diarrhea. As a complication of edema, this colitis was often fatal.

PATHOLOGIC FINDINGS

About twenty necropsies were performed in cases of war edema. The most striking feature was the total absence of fat in the body. At the normal sites for fat deposit, in the subcutaneous tissue, in the omentum and mesenteries, about the kidneys and on the heart, the fat was replaced by edema, producing a translucent, gelatinous tissue.

The heart muscle was pale and flabby. The ventricles were moderately dilated.

The pericardium, the pleural sacs and the peritoneal cavity were filled with clear fluid. Old pleural adhesions were often found, and in one case there were many peritoneal adhesions between the liver and the diaphragm.

The lungs usually showed bronchopneumonia and edema.

The kidneys, liver and spleen were pale, but otherwise showed no macroscopic changes.

The liver was usually small.

When colitis had been present, there was thickening and hyperemia of the rectum, sigmoid and the descending colon. Two cases of superficial ulceration were found.

CONCLUSIONS

Kriegsoedem is the result of underfeeding. I believe that the absence of fat in the diet is the chief factor in causing the condition. It is possible that there may be also a mechanical factor in its production. There is general asthenia as a result of hard work, exposure, insufficient food and depressing environment. The large amounts of fluid ingested, together with the increased amount of sodium chlorid, may form too great a load to be eliminated by a weakened myocardium through poorly nourished kidneys.

1. No facilities were allowed me for the proper estimation of blood pressure, for blood examination or histologic work. Also the collection of statistics was forbidden me, so that I have been unable to give exact figures with regard to cases.

THE PREDISPOSITION OF STREPTOCOCCUS CARRIERS TO THE COMPLICATIONS OF MEASLES

RESULTS OF SEPARATION OF CARRIERS FROM NON-CARRIERS AT A BASE HOSPITAL *

ROBERT L. LEVY, M.D. (BALTIMORE)
Captain, M. R. C., U. S. Army
AND
H. L. ALEXANDER, M.D. (NEW YORK)
Lieutenant, M. R. C., U. S. Army
CAMP ZACHARY TAYLOR, LOUISVILLE, KY.

It is evident from reports coming from various Army cantonments[1] that measles, because of the severity and frequency of its complications, must be regarded as a serious camp disease. Complications necessitate long hospitalization and cause, therefore, a high noneffective rate; bronchopneumonia and empyema have been responsible for many deaths. With surprising uniformity, the complications have been due to infection with a hemolytic streptococcus.

In the report of a commission[2] sent by the Surgeon-General of the Army to study the pneumonia at San Antonio, Texas, two significant facts concerning the relation of the streptococcus to the complications of measles were pointed out: First, a relatively small number of measles patients (11.4 per cent.) harbored

* From the Medical and Laboratory Services, Base Hospital, Camp Zachary Taylor, Ky.

1. Duncan, L. C., and Sailer, J.: An Epidemic of Measles and Pneumonia in the Thirty-First Division, Camp Wheeler, Georgia, Mil. Surg., 1918, 42, 123. Hamburger, W. W., and Mayers, L. H.: Pneumonia and Empyema at Camp Zachary Taylor, Ky., THE JOURNAL A. M. A., March 30, 1918, p. 915. Irons, E. E., and Marine, David: Streptococcal Infections Following Measles and Other Diseases, THE JOURNAL A. M. A., March 9, 1918, p. 687. Cumming, J. G., Spruit, C. B. and Lynch, Charles: The Pneumonias: Streptococcus and Pneumococcus Groups, THE JOURNAL A. M. A., April 13, 1918, p. 1066.

2. Cole, Rufus, and MacCallum, W. G.: Pneumonia at a Base Hospital, THE JOURNAL A. M. A., April 20, 1918, p. 1146.

this organism in their throats on admission to the hospital; second, many more acquired *S. hemolyticus* in their throats for the first time during their stay in the wards. It was therefore inferred that at Fort Sam Houston, at least, the high incidence of bronchopneumonia and empyema during convalescence from measles might be directly related to the transfer of the infectious agent from one patient to another in the wards of the hospital.

PLAN OF THE PRESENT STUDY

Ward Routine.—On admission to the hospital, all measles patients were sent to a special "measles receiving ward," which was divided into cubicles by sheets, and where every patient was required to remain in bed. Each day throat cultures were taken on those admitted during the preceding twenty-four hours. Carriers of *S. hemolyticus* were on the following morning sent to the "dirty" wards. Those whose cultures were negative for this organism were held for another day, and if a second swabbing confirmed the findings of the first, were sent to the "clean" wards. Rarely did the result of a second culture contradict the report of the preceding day. All patients in each ward were swabbed again at least once a week. On discovering that a "clean" patient had become a carrier in the hospital, he was promptly transferred to a "dirty" ward.

A separate ward was set aside for the reception of post-measles pneumonia, to which, immediately on the recognition of this complication, patients were transferred.

In both "clean" and "dirty" wards, cubicle isolation was strictly observed. Each patient was provided with a gauze mask, changed every twenty-four hours, and was required to wear this mask constantly when not in his own cubicle. For infringements of this rule, punishments were meted out by the ward surgeon, who also daily gave a short talk to ward personnel and patients on the rationale of the various measures for isolation. In this way better cooperation was insured.

Ward surgeons, nurses and orderlies, when in the ward, were properly masked and gowned.

All patients, in bed or convalescent, were fed in their own cubicles; three or more waiters, chosen from among the convalescents, served the food. At all times, but especially during meal hours, crowding together was prohibited; each man ate either in bed or at his own bedside. In the washroom, only one man was permitted at a time; in the latrines, the masks were worn and no more were allowed to enter than could be accommodated at any one time. A guard, changed every two hours and picked from among the convalescents, was stationed at the door of the latrine to insure the enforcing of these rules. No smoking was permitted.

It may well be asked why such rigid precautions were observed in wards in which only either carriers or noncarriers were cared for, and why these measures are described in detail. As pointed out by Cole, and repeatedly confirmed in our own experience, *S. hemolyticus* is very readily transferred from one individual to another, and no matter how strict the supervision, an occasional lapse in discipline is bound to occur. The slightest break in the chain of precautions may result in disaster. For example, in a "clean" ward, throat cultures made at intervals of a few days revealed the fact that several "clean" cases were being converted into carriers. On swabbing the personnel of the ward, it was found that two orderlies and a nurse harbored *S. hemolyticus* in profusion in their throats. On replacing these individuals with noncarriers, no further contamination occurred. This experience taught us to provide the clean wards with a personnel of noncarriers.

In the "dirty" wards, it is desirable to prevent one individual from becoming a carrier of another patient's strain of streptococcus; for different strains may vary in virulence. It is also worthy of note that among the 388 cases of measles described in this report, only two instances of cross-infection occurred, namely, two cases of mumps, probably admitted to the measles service in the incubation period of parotitis. Capps[3] has recently emphasized the value of masking in the prevention of cross-infection in contagious wards, and has outlined a number of ward measures similar to those here described.

Laboratory Technic.—Cultures from the pharynx and tonsils were taken at the bedside with straight swabs, which were then placed into about 1 c.c of beef infusion broth (+ 0.1), shaken and brought to the laboratory. There they were plated without incubation on 10 per cent. human blood agar plates. In order to insure proper separation of colonies, it was essential to rinse each swab thoroughly by twirling it forcibly against the side of the test tube, then wiping it further at the periphery of the plate, and streaking lightly. After from eighteen to twenty hours' incubation, single hemolytic colonies suggestive of streptococcus were transplanted into beef infusion broth (+ 0.1) and grown for twenty-four hours, when cultural characteristics, staining reactions and morphology were noted. Bile solubility was done only when the pneumococcus was suspected. Fermentation reactions and the degree of hemolysis were not studied.

S. hemolyticus occurred in wide variation in numbers, from but one or two colonies on a plate to almost pure cultures. That this variation was not due to the method of plating was confirmed by repeated swabbing of individuals, with fairly constant findings. Exceptionally, on one day a single or possibly a few colonies might be found, whereas a subsequent culture would reveal none. It therefore seemed worth while to differentiate between the "slightly infected"—those whose cultures showed only an occasional hemolytic streptococcus colony—and the "heavily infected." Those cases were classed as negative in which cultures at no time showed the presence of *S. hemolyticus*.

Twenty sputum cultures were made by spreading a fragment of thoroughly washed sputum over the surface of a blood agar plate. Bronchial secretions were obtained when possible. Of thirteen cultures from streptococcus carriers and seven from noncarriers, all corresponded to the throat swab findings, thus demonstrating that the throat culture is apparently an index of the presence or absence of *S. hemolyticus* in the lower respiratory tract.

INCIDENCE OF STREPTOCOCCUS CARRIERS IN MEASLES PATIENTS ADMITTED TO THE HOSPITAL

Table 1 is self-explanatory. These figures are in striking contrast to the percentages prevailing at Fort Sam Houston, Texas, where only 11.4 per cent. of measles patients were carriers of *S. hemolyticus* on admission to the hospital.

3. Capps, J. A.: A New Adaptation of the Face Mask in the Control of Contagious Disease, The Journal A. M. A., March 30, 1918, p. 910.

Of the eighty-nine noncarriers admitted to the wards, twenty-seven became infected during the period of their hospitalization. Contamination for the most part occurred during the early stages of the work, when the ward routine had not been firmly established. These cases are, of course, in the final analysis, classed with the carriers.

TABLE 1.—RESULTS OF THROAT CULTURES IN MEASLES ADMISSIONS

		Number	Per Cent.
Noncarriers		89	22.9
Carriers	Heavily infected	251	64.8
	Slightly infected	48	12.3
		299	77.1
Total		388	100.0

RELATIVE INCIDENCE OF COMPLICATIONS AMONG CARRIERS AND NONCARRIERS

Coryza, bronchitis and a laryngitis of variable severity, associated with an initial fever of from three to six days' duration, have been almost constant early accompaniments of each case. A majority of patients have been admitted on the second or third day of the disease, and fever occurring after the tenth day of hospitalization has been regarded as pathologic. Often it was indicative of a manifest complication; but of the uncomplicated cases, forty-seven, or 30.4 per cent., had transient, unexplained elevations of temperature frequently associated with headache and general malaise, but many times without symptoms or ascertainable cause. These unexplained febrile paroxysms, usually of from one to four days' duration, have formed an interesting, though puzzling, feature of the clinical course. They were noted a little more frequently among carriers (17.5 per cent.) than among noncarriers (12.9 per cent.).

TABLE 2.—COMPLICATIONS

Complications	Carriers: Heavily Infected	Carriers: Slightly Infected	Noncarriers	Total	Remarks
Bronchopneumonia	45	2	0	47	Fourteen of these patients are dead at the time of the present writing; some have been operated on for empyema; a number are still in the hospital
Acute tonsillitis	18	7	1	26	
Acute bronchitis	22	1	2	25	Not to be confused with the initial bronchitis
Acute suppurative otitis media	21	1	0	22	On culture, 9 specimens of pus showed S. hemolyticus; 2 Staphylococcus aureus
Empyema	15	0	0	15	All followed bronchopneumonia; on culture, 13 pleural fluids showed S. hemolyticus; 1, pneumococcus
Acute sinusitis	7	3	0	10	
Peritonsillar abscess	7	0	0	7	
Erysipelas	6	0	0	6	The face was affected in each instance
Cervical adenitis	4	1	1	6	Glands quite large, but never suppurated
Peritonitis	1	0	0	1	A terminal infection
Septic meningitis	1	0	0	1	A terminal infection
Totals	147	15	4	166	
	162		4	166	

Of the 388 cases, in 119, or 30.6 per cent., there were complications, a number of patients suffering from more than one. The complications are given in Table 2 in the order of their frequency.

An analysis of this table brings out a number of interesting points:

1. The complications of measles have occurred almost exclusively among streptococcus carriers, the incidence in this group being 36.8 per cent., as contrasted with 6.4 per cent. in "clean" cases. Furthermore, the four complications noted among the noncarriers have been of distinctly minor nature—two instances of acute bronchitis, one of acute tonsillitis, and one of cervical adenitis. In the slightly infected carriers, that is, those showing only an occasional colony in throat cultures, complications have occurred less frequently (22 per cent.) than in the heavily infected (38.2 per cent.).

2. Bronchopneumonia occurred forty-seven times, or in 12.1 per cent. of all cases. This complication has been responsible for many deaths; accurate mortality statistics are not available at the time of the present writing. In fifteen, or 34 per cent., of the bronchopneumonias, the patients have developed empyema.

3. On culture, thirteen pleural fluids showed *S. hemolyticus;* one, pneumococcus. From eleven specimens of pus obtained in cases of acute otitis media, *S. hemolyticus* was grown nine times and the *Staphylococcus aureus* twice.

4. Of 326 carriers, either entering the hospital as such or becoming infected after admission, 211, or 63.2 per cent., have had no complications.

ACQUISITION OF THE CARRIER STATE IN THE WARDS

Reference has already been made to Cole's observations on the ease with which *S. hemolyticus* may be spread from one individual to another in the ward of a hospital, though it is not mentioned that during the period of these observations cubicle isolation or other precautions to prevent the spread of infection were observed.

Experiments were therefore carried out in which wards were "mixed," that is, were filled half with "clean," half with "dirty" patients, in alternate beds. Newly admitted measles patients, convalescents and patients with complications composed the ward roster. All the precautions previously noted were rigidly enforced in order to prevent the contamination of "clean" by "dirty" patients. Yet in one ward, in which fifteen "clean" and fifteen "dirty" patients were placed, at the end of a week, only six noncarriers remained. In another ward of twenty-four, of whom at the start twelve were noncarriers, at the end of the week only three "clean" cases were found. Those patients who became "soiled" as the result of this period of exposure were for the most part classed as "slightly infected." These observations emphasize the importance of rigidly observing every precaution to prevent contact spread, though casting considerable doubt on the efficacy of the methods herein described. Therefore, when possible, if the incidence of complications is to be reduced, carriers and noncarriers should be separated, and cared for in different wards. Such a procedure should prove particularly valuable in camps where the number of streptococcus carriers among measles patients is low, as at Fort Sam Houston, Texas.

DIFFICULTIES OF ERADICATING THE CARRIER STATE

Throat cultures made at intervals in many of the "dirty" wards have shown that the carrier state, once

acquired, persists throughout the patient's stay in the hospital. There have been rare exceptions to this rule.

Attempts at mouth disinfection have not been successful. Neutral solution of chlorinated soda in half strength, which has been in common use as a gargle and spray in this and other Army hospitals, will not kill *S. hemolyticus,* even in vitro. Experiments with other mouth antiseptics, notably iodin in glycerin, though successful in the test tube, have been clinically most disappointing. The organisms, apparently safely lodged in the crypts of the tonsils and in the lymphatic tissues of the nasopharynx, are not accessible to the local treatments so far employed. Of the patients discharged from the hospital, 71.7 per cent. still harbored *S. hemolyticus* in their throats.

EPIDEMIOLOGY

It was shown earlier in the year by one of us[4] that Camp Taylor was heavily infected with *S. hemolyticus,* and during the past four months representatives from almost every organization have entered the base hospital with lesions caused by this organism. In the present epidemic of measles, it was striking that of the 388 cases studied, 346, or 89.1 per cent., came from the One Hundred and Fifty-ninth Depot Brigade, an organization into which all new men entering camp are attached during the early period of their training. Accordingly, throat cultures were made on ninety-five men of Company 5 (Second Battalion), composed of individuals from various parts of the brigade, most of them having been in service about six months. Of these, seventy-nine, or 83.2 per cent., were carriers of *S. hemolyticus,* 64.3 per cent. being heavily infected, 18.9 per cent. showing only an occasional colony on the plates.[5] All were apparently healthy.

If these observations, made on a representative company, may be used as an index, a high percentage of soldiers in the depot brigade harbor *S. hemolyticus* in their throats. The question naturally arises, Do these men come from civil life as carriers, or do they acquire the organism in camp? The recent draft afforded an exceptional opportunity for determining this point. Throat swabs were taken on 489 new recruits, representatives of both urban and rural communities, as they stepped from the train. Of these cultures, 14.8 per cent. showed the presence of hemolytic organisms.[6]

The inference is obvious. It has previously been shown that Camp Taylor is heavily seeded with *S. hemolyticus.* A large number of the men, therefore, acquire the streptococcus carrier state during their sojourn in camp.

SUMMARY

1. Of 388 measles patients admitted to the base hospital at Camp Zachary Taylor, Ky., 299, or 77.1 per cent., were found to be carriers of *S. hemolyticus.*

2. A ward routine was instituted in an attempt to prevent the contamination of noncarriers by carriers in the hospital. All patients were admitted to a special "measles receiving ward," where throat cultures were made. Carriers of the streptococcus and noncarriers were there separated and sent to wards designated, respectively, as "dirty" and "clean." In these wards rigid precautions were observed, the most important of which were cubicle isolation, masking of patients and attendants, guarding of latrines to prevent crowding, the feeding of each patient in his own cubicle and, in the clean wards, supplying orderlies and nurses who, by throat cultures, had been proved noncarriers.

3. Complications occurred in 119 cases in the series (30.6 per cent.); a number of patients suffered from more than one. In order of frequency the complications were: bronchopneumonia, acute tonsillitis, acute bronchitis, acute suppurative otitis media, empyema, acute sinusitis, peritonsillar abscess, erysipelas, cervical adenitis, peritonitis and septic meningits.

4. The complications occurred almost exclusively among streptococcus carriers, the incidence in this group being 36.8 per cent., as contrasted with 6.4 per cent. in "clean" cases. Furthermore, the complications noted among the clean cases were of distinctly minor nature.

5. Bronchopneumonia occurred forty-seven times, or in 12.1 per cent. of all cases, and caused many deaths. Fifteen, or 34 per cent., of the bronchopneumonia patients developed empyema.

6. Cultures of pleural fluids and pus from ear discharges have for the most part shown *S. hemolyticus.*

7. Of 326 carriers, 211, or 63.2 per cent., have had no complications.

8. Even while observing the precautions outlined, "clean" patients became contaminated when a ward was "mixed," that is, filled half with carriers, half with noncarriers. These observations cast some doubt on the efficacy of the ward measures described.

9. Strictly "clean" wards remain "clean." Therefore, if the incidence of complications in measles is to be reduced, carriers and noncarriers must be separated and cared for in different wards. This procedure should prove particularly valuable in camps where the number of streptococcus carriers among measles patients is low.

10. Attempts at eradicating the carrier state by the use of mouth antiseptics have failed. Of the patients discharged from the hospital, 71.7 per cent. harbored *S. hemolyticus* in their throats.

11. Throat cultures were made on ninety-five men of a representative company in the One Hundred and Fifty-Ninth Depot Brigade, the organization from which came 89.1 per cent. of measles patients in this series. Seventy-nine, or 83.2 per cent., of the men in this company, though apparently healthy, were carriers of *S. hemolyticus.*

12. Throat swabs taken on 489 new recruits as they stepped from the train showed the incidence of streptococcus carriers to be 14.8 per cent.

13. A large number of the men at Camp Zachary Taylor, therefore, apparently acquire the streptococcus carrier state during their stay in camp.

4. Alexander, H. L.: Hemolytic Streptococcus Causing Severe Infections at Camp Zachary Taylor, Ky., THE JOURNAL A. M. A., March 16, 1918, p. 775.

5. At Camp Custer, Battle Creek, Mich., Irons and Marine, during a period of respiratory infections, made a large number of throat cultures on selected companies. Hemolytic streptococci were found in about 70 per cent. of apparently healthy soldiers.

6. The circumstances under which these cultures were taken made it impossible to define the colonies further.

The Sources of Energy.—The work of the world is accomplished in largest part by the oxidation of carbohydrates, that is to say, of sugars and starches. Bread, corn, rice, maccaroni, cane sugar, these are par excellence the food fuels of the human machine. In the dinner pail of the laborer they testify as to the source of his power. They are convertible into glucose in the body, which glucose gives power to the human machine. They may be used for the production of work without of themselves increasing the heat production of the worker, as happens after meat ingestion.—Lusk, Food in War Time.

PROCEEDINGS OF THE CHICAGO SESSION

MINUTES OF THE SIXTY-NINTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT CHICAGO, JUNE 10-14, 1918

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 10

The House of Delegates met in the home of the American Medical Association, 535 North Dearborn Street, and was called to order at 10 a. m. by the Chairman, Major Hubert Work, Pueblo, Colo.

Chairman's Address to the House of Delegates

Dr. Hubert Work, Chairman, presented the following address:

To the House of Delegates of the Sixty-Ninth Annual Meeting of the American Medical Association:

Your presiding officer has few recommendations to make and none to urge, holding it to be indelicate at least, to invite legislation on which members of the house might entertain different views.

It is probable that this House of Delegates has not heretofore exercised its initiative function fully as the governing body of the Association. Apparently, it has done so to its own satisfaction and to the sufficient protection of the Association, but while the officers you elect represent you, you in turn represent the profession, which may sometime expect from you closer supervision. Lack of contact breeds distrust, and ignorance of facts encourages groundless suspicions but cooperation of efforts secures the highest success.

The successful career of our Association with the proud position its journal occupies with both medical and lay press, is a tribute to your previous selection of officers, yet I believe that the members of this house should activate their obligations to the Association between annual sessions.

I would remind you of the physical value of this plant, of the money on hand and invested, for which you are responsible; of the importance of this Association to our people at peace, and of its attitude in war. Its journal has become the authentic, quoted roster of the Medical Department of the Army by common consent, and its Military Medical Honor Roll together with its survey published a week ago has not been equaled as foundation work.

By invitation your chairman has attended all trustee meetings. The business methods and exactions of your trustees enforced in this great publishing house would, I believe, appeal to you. The management is alert in medicine, and financial detail is governed by the rules of all trust companies.

An Ad-Interim Committee of the house was proposed a year ago, but not pressed for some reason.

Your Secretary will report the action of a War Committee improvised by your authority to meet an emergency call for help.

The war into which we have been drawn is a war of the chemists. Its motive power, its devices for destruction and its medication of wounds are all chemicals and their combinations. The destructive science of chemistry must kill immediately or the healing aids of chemistry will cure ultimately.

As never before, medicine has proved our faith in it by what it has accomplished. The science we represent has demonstrated to all sects, pathies and unbelievers, its quality by its performance in a world crisis. The profession you gentlemen represent is scattered over the world's greatest domain of human intelligence, yet it sensed the common danger, comprehended it and stood at attention quicker than any other profession, trade or business. Our physicians at home no longer press plans for personal advantage. The ununiformed officers of the Selective Service in every community are indeed our medical reserves. They select our soldiers, carry the burdens of those gone and contribute of their earnings to the support of their dependents—surely, chivalry among physicians was never brighter, or the spirit of self-sacrifice a national asset until now—a by-product of our civilization that lay dormant under the complacency of our prosperity.

Surgeons transplant with impunity, either segments or shafts of bone from parts less important, to restore parts necessary to life and the healing of wounds is measured by hours rather than by weeks. These unplumed Knights of the Scalpel practice a new science of surgery, urged by the cry of necessity which opened to them opportunity.

One year ago when this house was convened it was stated that "thousands of our membership were preparing to follow," into the service of the Army. Thousands have followed and we already know that some have "carried on" beyond the war.

Each week THE JOURNAL first opens at our Gallery of Heroes, whose pictures are set over the inscription "Died in Service, M. R. C., U. S. Army." A simple epitaph; at once a eulogy, a requiem and a benediction. It comprehends preparation and service, to which the great seal of approval has been affixed by the United States of America. It matters not at all when we are called, but the manner of our going fixes the fragrance of remembrance. Our American mothers prefer a breaking heart, with pride of memory, to a living presence that needs an apology.

Although the American mind is sensitized by war, our profession must proceed coherently. The burdens war has imposed on the profession are heavy, but we must also forecast the medical problems of the peace to follow, which will tax every resource of our decimated ranks. Our losses by the hand of time, by casualties and of our premedical students, will lay a heavy hand on us afterward.

No one can now be found to say that we will not win the war or that the United States no longer produces the type of men our nation's history was builded around. The two generals through whom the medical profession serves would alone disprove both hypotheses.

The selective draft, predestined by the pacifist to failure, has proved to be the colossal achievement of the times. The man to accomplish it was already in place and able to envision the future, its contingencies and to sense the aroused American mind. Our people are giving up their sons without protest—and the selective service system has been conceivd in detail and established in entirety.

The Judge Advocate-General, who framed the law and who administers it as the Provost Marshal-General, has written the name of Enoch H. Crowder in history.

In this world's crisis, when we can only live through killing, when every device for destruction is employed as an engine of death, from lethal gas to 70-mile guns; poised, undismayed, with faith in his profession and in the science it employs, with the confidence of his government and the devotion of his profession stands the Surgeon-General of the Army.

While the picture from a magazine's page, hanging by one of a uniformed boy in the humblest home, is that of William C. Gorgas; although years of service may have run against him, the mothers of our soldiers will not consent to his retirement, but will pray that his eyes be not dimmed or his natural forces abated.

The trustees bid me say that, having come home, they hope you will sense the welcome, enjoy the freedom and experience the pleasures which are the dues of those who return after a long absence; and when departing, that you will leave, with your adieus, advice, suggestions and instructions to further direct them in their stewardship.

I declare the House of Delegates now open for business.

Reference Committees

The Chairman announced the following Reference Committees:

SECTIONS AND SECTION WORK

John D. McClean	Pennsylvania
Guy L. Connor	Michigan
Frederick T. Rogers	Rhode Island
Thos. Holloway	Ophthalmology
G. A. Moleen	N. and M. D.

RULES AND ORDER OF BUSINESS

C. R. Scott ..... Idaho
S. W. Welch ..... Alabama
E. B. Cooley ..... Illinois
W. T. Williamson ..... Oregon
A. F. Richards ..... Tennessee

MEDICAL EDUCATION

E. A. Hines ..... South Carolina
J. B. Blake ..... Massachusetts
Wm. S. Lalor ..... New Jersey
Robert E. Noble ..... Army
R. M. Funkhouser ..... Missouri

LEGISLATION AND POLITICAL ACTION

M. L. Graves ..... Texas
A. E. Bulson, Jr. ..... Indiana
George H. Kress ..... California
Southgate Leigh ..... Virginia
E. E. Harris ..... New York

HYGIENE AND PUBLIC HEALTH

J. W. Schereschewsky ..... U. S. P. H.
H. P. Ritchie ..... Minnesota
Frederic E. Sondern ..... New York
C. D. Selby ..... Ohio
J. R. Morrell ..... Utah

AMENDMENTS TO CONSTITUTION AND BY-LAWS

F. M. Crandall ..... New York
C. L. Stevens ..... Pennsylvania
Rock Sleyster ..... Wisconsin
Henry E. Odell ..... Navy
C. P. Meriwether ..... Arkansas

REPORTS OF OFFICERS

H. G. Wetherill ..... Gynecology
F. E. Murphy ..... Missouri
S. R. Roberts ..... Georgia
Torald Sollmann ..... Phar. and Ther.
H. B. Gibby ..... Pennsylvania

CREDENTIALS

D. Chester Brown ..... Connecticut
James W. May ..... Kansas
Jos. W. Aikin ..... Nebraska
M. A. Kelso ..... Oklahoma
Rudolph Horsky ..... Montana

MISCELLANEOUS BUSINESS

C. E. Humiston ..... Illinois
M. N. Voldeng ..... Iowa
H. A. Royster ..... North Carolina
D. E. McGillivray ..... Washington
J. H. J. Upham ..... Ohio

Reports of Officers

Report of the Secretary

The Secretary presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

For the year 1917-18, I submit the following report:

MEMBERSHIP

The membership of the various constituent state associations, which constitutes the membership of the Association, according to the records in the Secretary's office, May 1, 1918, was 80,248, as shown in the accompanying table.

FELLOWSHIP*

The Fellowship of the American Medical Association on May 1, 1917, was 44,010. During the past year, 447 Fellows have died, 2,258 have resigned, 312 have been dropped as not eligible, 521 have been dropped for nonpayment of dues and 54 have been removed from the rolls on account of being reported "not found," making a total of 3,592 names to be deducted from the Fellowship roll. There have been added 4,297 names to the Fellowship roll, of which 3,077 were transferred from the subscription list. The Fellowship of the American Medical Association on May 1, 1918, was 44,715, a net increase for the year of 705.

This gain in the number of Fellows, as in previous years, is due largely to circularizing subscribers to THE JOURNAL who were eligible, urging them to become Fellows.

* These figures do not include those who are now Fellows by virtue of their being commissioned and on active duty as Medical Reserve Corps Officers but who previously have not been Fellows.

AD INTERIM APPOINTMENT OF COMMITTEES

Under date of Oct. 19, 1917, the following report of the Board of Trustees was submitted by the chairman of the House of Delegates and the secretary to the members of the House of Delegates of the American Medical Association,

TABLE—ORGANIZATION OF CONSTITUENT ASSOCIATIONS

Constituent Association of	No. Counties in State	No. Component Societies in State Assn.	Number Counties in State Not Organized		Physicians in State (6th Ed. Directory)	Number Members of State Association		No. A. M. A. Fellows in State	No. Subscribers to Journal in State*
			1917	1918	No.	1917	1918		
Alabama	67	67	...	...	2,530	1,851	1,752	418	225
Arizona	14	11	2	3	333	153	182	122	83
Arkansas	75	62	13	13	2,587	1,103	1,045	376	223
California	59	40	19	19	5,929	2,700	2,862	1,937	801
Colorado	63	24	31	32	1,713	868	874	495	287
Connecticut	8	8	...	...	1,701	1,039	1,067	658	286
Delaware	3	3	...	...	264	101	103	59	28
Dist. Columbia	....	....	...	...	1,237	560	559	394	227
Florida	54	31	20	22	1,296	573	562	221	161
Georgia	152	85	58	58	3,436	1,323	1,415	674	414
Idaho	41	6	12	16	449	154	122	85	118
Illinois	102	93	1	1	10,909	6,057	6,330	3,851	1,858
Indiana	92	86	1	2	4,765	2,418	2,055	1,181	498
Iowa	99	96	2	3	4,004	2,277	2,333	1,225	554
Kansas	105	64	27	33	2,683	1,117	1,633	933	419
Kentucky	120	112	4	7	3,503	2,300	2,146	694	295
Louisiana	64	39	21	23	2,023	805	899	401	275
Maine	16	15	2	1	1,179	753	744	309	123
Maryland [1]	23	21	2	2	2,268	1,200	1,012	673	331
Massachusetts [2]	14	18	...	...	5,870	3,593	3,681	2,117	939
Michigan	83	58	2	1	4,598	3,027	2,738	1,669	509
Minnesota	86	38	3	3	2,548	1,552	1,688	1,133	454
Mississippi	81	47	3	3	1,975	984	400	244	179
Missouri [1]	114	98	11	11	6,063	3,251	3,216	1,363	657
Montana	44	14	25	27	661	323	225	195	152
Nebraska	93	60	24	26	2,237	970	1,146	644	380
Nevada	16	4	13	12	152	52	89	47	35
New Hampshire	10	10	...	...	657	509	521	266	55
New Jersey	21	21	...	...	3,046	1,757	1,793	995	424
New Mexico	28	11	16	17	456	199	147	157	93
New York	62	59	1	1	15,877	8,512	8,470	5,049	2,125
North Carolina	100	78	17	15	2,237	1,262	1,277	430	273
North Dakota	53	14	2	2	604	383	190	267	103
Ohio	88	87	1	1	7,802	4,679	4,353	2,333	939
Oklahoma	77	68	3	9	2,672	1,407	1,466	618	269
Oregon	36	13	3	3	1,128	596	709	249	233
Pennsylvania [2]	67	63	4	4	11,539	6,800	6,928	3,946	1,473
Rhode Island [2]	5	6	...	...	759	446	427	318	103
South Carolina	45	40	3	4	1,237	732	705	358	190
South Dakota	68	9	7	7	646	376	373	229	122
Tennessee	96	65	29	29	3,481	1,675	1,686	605	284
Texas	250	146	70	71	6,236	3,443	3,508	1,486	615
Utah	29	5	23	24	477	259	267	182	108
Vermont	14	11	...	...	639	380	414	162	64
Virginia [4]	100	66	51	34	2,509	1,756	1,767	605	357
Washington	39	19	18	19	1,673	956	965	540	288
West Virginia	55	30	12	12	1,759	793	930	495	242
Wisconsin	71	54	...	...	2,783	2,894	3,001	1,070	496
Wyoming	22	3	15	17	254	117	82	69	70
Misc. (foreign)	....	....	...	...	.....	.....	.....	346	
Alaska	....	....	...	...	.....	.....	.....	4	21
Canal Zone	....	....	...	...	.....	82	97	31	23
Hawaii	5	....	...	...	.....	79	70	41	31
Porto Rico	7	2	...	...	.....	114	113	38	29
Philippine Isl.	....	....	...	...	.....	101	92	35	88
Totals	3,036	2,085	571	587	.....	81,501	80,248	43,042	19,714
Commissioned Officers[5] and Honorary Fellows								1,673	
								44,715	

* Not including Fellows of American Medical Association.

Note.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on May 1, 1918.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. The state of Maryland has 23 counties and the city of Baltimore; Missouri has 114 counties and the city of St. Louis.

2. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has recently adopted the plan of organization and is now establishing component county medical societies.

5. This figure includes the Medical Corps of the Army, the Navy and the Public Health Service.

and was adopted unanimously by a postal vote, 116 votes having been cast:

Under date of Oct. 13, 1917, Hugh S. Johnson, Lieutenant-Colonel, Judge Advocate, Executive Officer of the Provost Marshal General, acting for the President of the United States and War Department, addressed a letter to the American Medical Association from which we quote:

"We need the active and vigorous cooperation of the American Medical Association. We need the promptest and most thorough action in this regard. Will you not call together a sufficient number of your executive council to authorize this cooperation by the Association, and to consider a definite and concrete proposition which can be presented here, and upon which we can act?"

Specifically, the cooperation desired of the Association is set forth in the following:

"It is planned to establish Medical Advisory Boards, not necessarily integrated with the territorial jurisdiction of either Local or District Boards, but having headquarters with sufficient apparatus and conveniences so located as to be accessible to boards in the portion of the state in which the Advisory Boards are situated. Any case in which the local examining physician has held the registrant disqualified for service (unless the disqualification is obvious) or in which the local physician is in doubt, or in which the registrant feels aggrieved by the decision of the local physician, or where the Local Board or the Government Appeals Agent desires to appeal the findings of the local physician, is to be sent to such Medical Advisory Board for an exhaustive [medical] reexamination upon which the Local Board can proceed to a final determination."

These Medical Advisory Boards will consist of physicians selected for their ability to make thorough and complete physical and mental examinations. This means that the boards shall be composed of specialists competent to make such laboratory and other examinations as may be required. This matter was of such importance and the urgency was so great that, in accordance with the spirit of the recommendation of the Reference Committee on Reports of Officers adopted by the House of Delegates in June, 1917, i. e.,

"We further suggest to the House of Delegates that it formally and officially offer to the government, through adoption of this recommendation, the services and facilities of the American Medical Association for such assistance as may be in its power to render hereafter",

the Board of Trustees, on Oct. 19, 1917, in special session assembled for the purpose of considering the matter, all the members being present, unanimously adopted the following resolutions:

Resolved, That the Board of Trustees, for and on behalf of the American Medical Association, accepts the invitation to cooperate with the Provost Marshal General in the matter presented in the letter of Lieut.-Col. Hugh S. Johnson under date of Oct. 13, 1917.

Resolved, That a committee of three be and hereby is appointed with full power to act in conjunction with the Provost Marshal General in the premises.

The following committee was appointed: M. L. Harris, secretary, Board of Trustees; Hubert Work, chairman, House of Delegates, and E. J. McKnight, member of the Board of Trustees.

Respectfully submitted, by order of the Board of Trustees.

M. L. HARRIS, Secretary, Board of Trustees.

Later, the Board of Trustees appointed A. R. Mitchell to fill the vacancy on this committee occasioned by the death of E. J. McKnight, and the President of the Association, the Editor of THE JOURNAL and the Secretary were added to the committee as ex officio members. The board further extended the functions of the committee by authorizing it to act in cooperation with the Provost Marshal General's Office, the Surgeons-General of the Army and the Navy and such other military officials as may be deemed best in the interest of and for the successful conduct of the war. It is recommended that the House of Delegates, by action taken at this annual session, shall ratify the postal vote adopting the foregoing report of the Board of Trustees and, if it is in accord with the wisdom of the house, that it shall continue this committee with power to act for the Association in all matters pertaining to placing the Association at the service of the government for the war.

COOPERATION WITH THE SURGEON-GENERAL OF THE ARMY

At its annual session last year, the House of Delegates approved the action of the Secretary in offering, on March 29, 1917, the facilities of the American Medical Association to the Surgeons-General of the Army and of the Navy for whatever service the organization could render in support of the federal government in the prosecution of the war. Following the adoption of the recommendation of the Reference Committee on Reports of Officers whereby the House of Delegates "formally and officially" offered "to the government . . . the services and facilities of the American Medical Association for such assistance as may be in its power to render hereafter," an official communication of this action was transmitted to the Surgeons-General of both the Army and the Navy and was acknowledged by each of them.

It may be of interest to enumerate briefly some of the facilities which the Association has at its headquarters and which in accordance with the foregoing action were made available to the offices of these Surgeons-General.

The facilities at the Association's headquarters are unique: they include information regarding the members of the medical profession which can not be found elsewhere. This information consists of complete records of the membership of the organization, of all licensed physicians, of data compiled from various sources, including matters relating to the professional and social standing of the individual physician. Specially, at the Association headquarters there are:

(a) A card index record of the medical students of the United States showing their preliminary education, the medical schools which they are at present attending and the schools at which each of the years of the medical course has been taken. This covers the last seven years.

(b) A biographic card index of physicians giving, in addition to the student record, information concerning the school of graduation, licenses held, hospitals in which they have served as interns, the places at which they have engaged in practice, etc.

(c) A record of the membership of recognized special medical societies and associations, as well as the names of those who have registered in the various Sections of the Scientific Assembly of the American Medical Association. These records provide information regarding the specialty in which each physician is interested or to which he limits his practice. This information is supplemented by statements from physicians themselves regarding their specialty.

(d) A personal file kept in envelopes which contains a vast amount of personal information concerning physicians; this is in the form of newspaper clippings and reports from various sources.

(e) A file in the Propaganda for Reform department of THE JOURNAL containing a most complete list of quacks, irregular practitioners, cults, 'pathies, etc.

In its organization the American Medical Association coordinates the constituent state medical associations and their component county and district societies. This organization reaches every part of the country and practically every physician. Its machinery consists among other things of:

(a) The names and addresses, corrected to date, *in type and ready for use* by the Dick Addressing Machine, of the presidents and secretaries of the state, district and county societies—some 5,156 names—making it possible to address any communication to the organized profession without delay. This is the mailing list for the American Medical Association Bulletin, which publication is available for circularizing any extended matter.

(b) When it is desired to reach the individual members of a county society, a list of these members is also quickly available.

Since the beginning of the war, the office of the Association has, as a routine procedure, made available to the Surgeon-General of the Army all its records relative to the applicants for commission in the Medical Reserve Corps. We have received almost daily lists of names of those making application for commission in the Medical Reserve Corps. When the lists were received, the names were card indexed and the cards distributed among specially trained clerks, who looked up all the information we have concerning each individual. If any information was found which called in question the personal or professional character of any of these individuals, the information was transmitted, without comment, to the office of the Surgeon-General. The amount of time and the extent of the work involved can be appreciated only by seeing the records which are assembled here and noting the response which the medical profession of the United States has made to the call of the government. The members of the House of Delegates are urged to avail themselves of the opportunity afforded at this session to acquaint themselves with the workings of the various departments at this office.

Other features wherein the Association has assisted the federal government are set forth in the reports of the Board of Trustees and of the War Committee.

MEMORIAL TO CONGRESS

The following memorial was signed in duplicate by seventeen of the general officers of the Association and by 115 of the 130 members of the House of Delegates of the Association, and on January 30 one set was transmitted to the Vice President of the United States, the presiding officer of the Senate, and the other to the speaker of the House of Representatives. Both were duly acknowledged:

The undersigned officers of the American Medical Association and the members of its House of Delegates, representing the membership of the various state associations of the United States, comprising in excess of 81,000 physicians, respectfully present the following memorial:

WHEREAS, Section 209 of the War Tax provides that, in addition to the regular income tax and surtax, there shall be a further tax of 8 per cent. on incomes in excess of $6,000 of all professional men; and

WHEREAS, Such excess tax is unfair, unjust and vicious, in that it imposes a double tax on those who have no invested capital, but whose earned income is the result of mental effort and personal energy, after an expensive education and a long professional experience—in a word, on those whose income is the product of their brains;

THEREFORE, In behalf of the medical profession of the United States, we respectfully urge the repeal of Section 209.

REAPPORTIONMENT

The attention of the House is called to By-Laws, Section 3, Chapter I, page 6. This is the year for reapportioning the delegates of the various state associations; the by-law requires that the House of Delegates shall appoint a committee of five on reapportionment of which the President and Secretary shall be members. I suggest that this appointment be made early in the session, so that the Committee may report to the House as promptly as possible.

Other matters in which the office of the Secretary of the Association has been concerned are reported to the House of Delegates from other sources.

Respectfully submitted,

ALEXANDER R. CRAIG,
Secretary.

Report of the Board of Trustees

Dr. Thomas McDavitt, Chairman, read the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

In the report of the Board of Trustees made to you last June at New York, we expressed the fear that on account of the war our income from THE JOURNAL for the year 1917 might be seriously curtailed, unless strict economy was practiced. It was predicted that there would be great falling off in the number of Fellows and subscribers, and urged that we be prepared to meet the new conditions. As a matter of fact, the year 1917 proved to be a successful one—at least so far as THE JOURNAL is concerned. Instead of a falling off, there was an actual increase in circulation, as will be noted by tables in the addendum. On Jan. 1, 1917, the number of subscribers and Fellows was 65,661; on Jan. 1, 1918, 67,315—an increase for the year of 1,654. The actual number of copies printed for the year was 3,504,724, or a weekly average of 67,400.

The number of subscribers in foreign parts is increasing year by year. The total foreign circulation on Jan. 1, 1918, was 1,652. There was no gain in Europe for the year, because what little increase occurred in the countries of our allies was overcome by the dropping from the list of subscribers in enemy countries. On January 1 we had 72 subscribers in China, 114 in Japan, 126 in the various South American countries, and 57 in Mexico. There has been a pretty good increase in all these countries since January 1.

One of the tables gives the percentage in each state of physicians who take THE JOURNAL. The average percentage for the whole United States is approximately 46. This is an extremely gratifying record, considering all things. There are, sad to say, a large number of physicians who regard THE JOURNAL as too scientific, although the relative number of these is rapidly decreasing. But the number of those who take THE JOURNAL does not represent the number of its readers; in many instances a number of physicians have access to the same copy, and the copies that go to libraries naturally are read by many. As was stated once before, THE JOURNAL reaches a larger percentage of the profession and covers its particular field more thoroughly than does any other journal issued for any other class, profession, trade or specialty.

The revenue derived from THE JOURNAL for the past year—that is, for dues and subscriptions, as shown in the Auditors' Report, was $318,487.25.

ADVERTISING

Also, contrary to our prediction last year, there was an increase in the receipts from advertising during the year. The total income from this source was $264,996.52, an increase of over $35,000. Considering the standard of the advertising pages of THE JOURNAL, the financial returns are gratifying. The fundamental rule governing advertising is that no proprietary or controlled medicine shall be advertised unless it has been investigated by the Council on Pharmacy and Chemistry and accepted for New and Nonofficial Remedies. The same general principle applies to other articles advertised, viz.: the product advertised must be an honest one, and the claims made for it must not be exaggerated. Naturally this results in the loss of a good deal of advertising, but we are sure that it pays to be thus rigid, even from a commercial point of view.

COOPERATIVE MEDICAL ADVERTISING BUREAU

The work of this bureau is giving satisfaction and it is appreciated as a good thing by the various state journals. Without exception the state publications which the bureau represents—and it represents all officially owned state journals except the Illinois—are pleased with the results of this cooperative work.

In 1915 the bureau cost the Association $708, and in 1916, $220; while during the past year in addition to earning its expenses and returning a pro rata honorarium to the state journals of $900, it had $203 to apply as a credit for the year 1918.

AMERICAN JOURNAL OF DISEASES OF CHILDREN

This journal seems to be giving satisfaction, at least if we are to judge by the circulation, which now is 2,415. Considering that it is, in a way, a special journal, and appeals only to those who give special attention to pediatrics, this circulation must be regarded as satisfactory.

We regret to say that there was a loss—$254.29—on the CHILDREN'S JOURNAL last year, as against a gain of $322.38 the previous year. This loss is due principally to an increase in the amount paid for abstracts during the year.

While the regular price of this journal is $3 a year, practically all the subscribers club it with THE JOURNAL or THE ARCHIVES, and pay only $2 annually.

THE ARCHIVES OF INTERNAL MEDICINE

What is said regarding the AMERICAN JOURNAL OF DISEASES OF CHILDREN will apply to THE ARCHIVES OF INTERNAL MEDICINE. The circulation of this journal, as of Jan. 1, 1918, was 2,366—an increase of 264 over the preceding year. Here again there was a loss—and a rather serious one, viz.: $1,635.40, as against a loss of $66.52 the preceding year. This loss is accounted for by the increased size of THE ARCHIVES. The original plan outlined a journal of approximately 600 pages to the volume, or 1,200 pages a year. But the size has been gradually increasing until the number of pages in the two volumes for 1917 reached 2,082. The regular subscription price is $4 per annum—that is for two volumes. As in the case of the AMERICAN JOURNAL OF DISEASES OF CHILDREN, THE ARCHIVES is clubbed with THE JOURNAL or with the CHILDREN'S JOURNAL, at $3, and practically all of the subscribers receive it at this figure. This, of course, is too low a price if the size of the journal is to be what it is at present.

A comparison with other similar publications is interesting.

The *American Journal of Physiology*, the *Journal of Pharmacology and Experimental Therapeutics*, the *Journal of Urology*, the *Journal of Bacteriology* and the *Journal of Immunology* each cost $5 a volume of not to exceed 600 pages, or $10 a year for those which are issued monthly. The last volumes of these journals had, respectively, 600, 562, 580, 646 and 592 pages.

While the Board of Trustees believes in encouraging these special journals, it is not intended to publish them at an actual loss. The board is considering the advisability of either asking the Editorial Board of THE ARCHIVES to reduce the number of pages, or increasing the price to $2.50 a volume —$5 a year. If the present clubbing arrangements are continued, this would mean $4 a year for the great majority of subscribers. However, thus far no action has been taken in the matter.

PROPAGANDA DEPARTMENT

The results of the work of this department, so far as it relates to the public, have never been more evident than during the past year. For the first time the inquiries from laymen exceeded in number those from physicians. Possibly this is due to a growing realization on the part of the public regarding the monstrous waste—both in money and in health —connected with the exploitation of worthless or fraudulent medicines.

This department is cooperating with and advising advertising vigilance committees, associations of advertisers and advertising managers of the better class of magazines and newspapers, with the results that those who are behind the scene appreciate that great improvements are taking place in regard to the advertising standard of our leading lay publications. The number of schools and colleges that devote a certain amount of time each session to the economic, sociologic and health phases of the "patent medicine" evil continues to increase. This doubtless is due to the fact that some of the high school and college textbooks on home economics and on hygiene and physiology touch on these subjects and either use the Propaganda's publications or give them as references for supplementary reading and study. The Educational Posters prepared by the department are becoming widely used in such work.

COUNCIL ON PHARMACY AND CHEMISTRY

The war naturally has influenced the work of the Council on Pharmacy and Chemistry and, to a less extent, that of the Chemical Laboratory. Since the war started, no new synthetics or preparations of any kind have been submitted from Germany. Before that time not a month passed that Germany did not send at least one new synthetic or other drug. The value of the Council's endorsement has been recognized by the drug and chemical concerns abroad, and these concerns submitted to the Council practically every product at the outset.

Meanwhile radical changes have been taking place in this country. A large number of synthetics for which we formerly depended entirely on Germany are now being manufactured in increasing quantities by American concerns. Four concerns are now making arsphenamin to take the place of salvarsan, and such products as atophan, veronal, novocain, phenol and phenol derivatives—salicylic acid, the salicylates and particularly acetylsalicylic acid (aspirin), etc., also are being made here. To protect both the public and the profession, as well as to encourage the American manufacture of synthetics, the Council and the Laboratory have willingly investigated the quality of these substitutes for foreign made goods, and when they have been found satisfactory—which has been the case in practically every instance—have accepted them for New and Nonofficial Remedies. Certain members of the Council have been cooperating with the Federal Trade Commission in solving the problem connected with licensing manufacturers to make certain products controlled by German patents.

At the request of the head of the division of supplies in the Surgeon-General's Office, the Committee on Therapeutic Research and Useful Drugs of the Council held a meeting in Chicago, April 26 and 27, to investigate and make recommendations regarding deletions from, and additions to, the list of drug supplies for the Army. Constituted as this committee is, it is thoroughly competent to do this work, and we believe it has been appreciated by the Surgeon-General.

COMMITTEE ON SCIENTIFIC RESEARCH

In 1900 a committee on Scientific Research was constituted. This committee was continued until 1914 when, in the curtailment of expenses, it was found necessary to discontinue making the annual appropriation for its work. Conditions now are such that the board has felt justified in reestablishing this grant. The committee as newly constituted consists of: Dr. Ludvig Hektoen, Professor of Pathology at Rush Medical College, Chicago; Dr. G. N. Stewart, Professor of Experimental Medicine, Western Reserve University, Cleveland; Dr. A. W. Hewlett, Professor of Medicine, Leland Stanford Jr. University, Berkeley, Calif.; Col. F. F. Russell, Surgeon-General's Office, Washington, D. C.; J. W. Churchman, Professor of Surgery, Yale University, New Haven, Conn., and Herbert Charles Moffitt, Dean and Professor of Medicine, University of California, Medical School.

DISPOSITION OF LAWSUITS

The active work of the Association in codifying and supplying to the profession and the public information concerning quackery, fraudulent medicines and low-standard medical colleges naturally has resulted in attempts on the part of those affected by such disclosures to intimidate the Association by instituting, or by threatening to institute, lawsuits. It costs very little to institute such suits, and they may be considered as good advertising. Further, they give a semblance to a claim that unwarranted statements have been made. The fact that these cases are practically never pushed to trial, evidences the care the Association takes in determining the accuracy of the information it publishes.

During the past year the followng cases have been disposed of:

In the Circuit Court of Cook County, Ill.:

Julian J. Meyer *vs.* American Medical Association. Alleged damage, $100,000.00.

Organic Chemical Manufacturing Co. *vs.* American Medical Association, and Dr. George H. Simmons. Alleged damage, $100,000.00.

S. Lewis Summers *vs.* American Medical Association, and Dr. George H. Simmons. Alleged damage, $100,000.00.

In the Superior Court of Cook County, Ill.:

John S. Waterman *vs.* American Medical Association. Alleged damage, $100,000.00.

T. Leacraft Hein *vs.* American Medical Association. Alleged damage, $100,000.00.

The cases of Julian J. Meyer, John S. Waterman and T. Leacraft Hein, all physicians, are the result of the exposure in THE JOURNAL of the Friedmann Consumption Cure fake. The other two cases, that of the Organic Chemical Manufacturing Co. and of S. Lewis Summers, are to all intents and purposes identical, since S. Lewis Summers is the president of, if not the Organic Chemical Manufacturing Co. These cases were virtually thrown out of court without trial.

The case entitled "People of the State of Illinois on the relation of Maclay Hoyne, State's Attorney, *vs.* W. W. Grant, Frank J. Lutz, Oscar Dowling, W. T. Sarles, Philip Marvel, Philip Mills Jones, M. L. Harris, W. T. Councilman and Thomas McDavitt," was finally reached and was passed on by the Supreme Court in favor of the American Medical Association. The following is the legal history of the case:

In the latter part of 1910, Dr. G. Frank Lydston applied to John E. W. Wayman, then the State's Attorney of Cook County, Illinois, to bring *quo warranto proceedings* against the Trustees of the American Medical Association to oust them from office because they were elected at meetings held outside of the state of Illinois, and because he alleged that the by-laws for the election of delegates to the House of Delegates were contrary to the laws of Illinois. The State's Attorney declined to bring the *quo warranto proceedings*. Dr. Lydston then applied to the Attorney General of the State of Illinois to bring such action in *quo warranto* against the Trustees. The Attorney General also declined to file such a proceeding because the principal office of the American

Medical Association was in Chicago, and for the further reason that the State's Attorney had declined to bring the action.

On April 28, 1911, Dr. Lydston, claiming to act on behalf of the People of the State of Illinois, filed a petition in the Circuit Court of Cook County, Illinois, General No. 305366, against John E. Wayman, State's Attorney, for a *writ of mandamus* to compel the State's Attorney to sign a petition in *quo warranto* to oust the then Trustees from office.

To that petition the State's Attorney filed a demurrer.

On May 18, 1911, the Circuit Court, after extended argument, sustained the demurrer of the State's Attorney and dismissed the petition at relator's cost. Dr. Lydston thereupon prayed and was allowed an appeal to the Appellate Court.

On Oct. 2, 1911, the case was docketed in the Appellate Court of Illinois.

On Oct. 7, 1911, Maclay Hoyne, the then State's Attorney, was substituted for Mr. Wayman.

On Oct. 9, 1913, the Appellate Court, by a divided court, two judges to one, reversed the judgment and remanded the case to the Circuit Court with directions to overrule the demurrer.

By stipulation of the parties the Appellate Court thereafter set aside its judgment, overruled the demurrer which had been sustained by the court below, entered a final judgment awarding a *peremptory writ of mandamus* commanding the State's Attorney of Cook County to sign the information in the nature of a *quo warranto*, and awarded a certificate of importance to the Supreme Court. That state of the record, it was supposed, permitted the State's Attorney to carry the case to the Supreme Court of Illinois.

At the December term, 1913, the State's Attorney filed the record of the case in the Supreme Court and the case was argued at that term.

Feb. 21, 1914, the Supreme Court filed its opinion to the effect that the Appellate Court did not have the power to award a *peremptory writ of mandamus*, and remanded the case to the Appellate Court to enter a judgment reversing and remanding the cause to the Circuit Court.

On July 15, 1914 the case was redocketed in the Circuit Court, and on the same date, in obedience to the direction of the Appellate Court, *the demurrer to the petition was overruled*. From that judgment an appeal was taken by the State's Attorney to the Appellate Court. On the call of the case there, it was reargued before a branch of that court different from the one which had made the previous decision.

On Oct. 6, 1915, the second branch of the Appellate Court decided that they were bound by the first decision in that court and affirmed the judgment of the Circuit Court.

On Dec. 20, 1915, the State's Attorney made an application to the Supreme Court for a *writ of certiorari* to review the judgment of the second branch of the Appellate Court, but the Supreme Court denied the writ.

Thereupon, in pursuance of said judgment of the Appellate Court, and on June 27, 1916, the People of Illinois, on the relation of Maclay Hoyne, State's Attorney, filed a proceeding in the nature of *quo warranto* in the Circuit Court of Cook County, Illinois, General No. B-22003 against Drs. W. W. Grant, Frank J. Lutz, Oscar Dowling, W. T. Sarles, Philip Marvel, Philip Mills Jones, M. L. Harris, W. T. Councilman and Thomas McDavitt, Trustees, as defendants, charging that the said Trustees were illegally holding office because elected outside the state of Illinois, under by-laws which were alleged to be illegal under the laws of the state of Illinois. (At this point the American Medical Association is technically brought into the case for the first time.)

On Nov. 13, 1916, a demurrer to the petition in *quo warranto* was filed on behalf of all the Trustees.

On Dec. 16, 1916, after extended argument, the Circuit Court sustained the demurrer of the Trustees.

The People, by the State's Attorney, thereupon perfected their appeal from said judgment to the Appellate Court sitting at its March term, 1917.

After the presentation of printed briefs and upon oral arguments in November, 1917, and full consideration, the Appellate Court filed an opinion, two judges to one, affirming the Circuit Court judgment sustaining the dermurrer, and at the request of The People granted a certificate of importance to the Supreme Court. Such certificate of importance permitted an appeal to the Supreme Court of Illinois.

Thereupon such appeal was taken by the People and came on to be heard upon printed briefs and oral argument at the February term, 1918, of the Supreme Court.

On April 17, 1918, the Supreme Court filed its opinion affirming the judgments of the Appellate Court and of the Circuit Court in the *quo warranto proceedings*, which gave judgment against the People of the State of Illinois and in favor of the Trustees.

This is the first decision by our Supreme Court on the question of whether a corporation not for profit may hold its annual meetings outside of the state of Illinois for the election of its Trustees. The Supreme Court also sustained the by-laws of the Association, which fixed the method of electing delegates to the House of Delegates, and the election of the Trustees by the House of Delegates instead of by the membership at large.

The Appellate Court in a *mandamus proceeding* against the State's Attorney, once decided that such meetings were illegal, but such decision was wholly unauthorized for the reason that it was made in mandamus proceeding, seeking to compel the State's Attorney to sign a petition in *quo warranto*. Under the last decision by another branch of the Appellate Court, the latter held, by a divided court, as above stated in the *quo warranto proceeding*, that the earlier decision of the Appellate Court was not *res adjudicata*, and was not a correct interpretation of the Illinois statute, and affirmed the judgment of the Circuit Court sustaining the demurrer of the Trustees to the *information in quo warranto*, which decision of the Appellate Court is now affirmed by said decision of the Supreme Court.

The Supreme Court takes the ground that, first, the Appellate Court was right in its judgment in the mandamus action in ordering the State's Attorney to sign the information in *quo warranto;* and second, that it was in error in undertaking to pass on the merits which would be involved in the *quo warranto proceedings*. The Supreme Court expresses the opinion further that when it (the Supreme Court) refused a *writ of certiorari* it only intended to agree to the judgment of the Appellate Court directing the State's Attorney to sign the petition in the nature of *quo warranto*, but not to what the Appellate Court said on the merits of the case which would be involved when the questions in that case came before the courts for decision.

That is a most important addenda, since the Appellate Court in its last decision divided on the question whether such earlier decision of the Appellate Court was or was not *res adjudicata* the counsel for the relator, one justice strongly insisting that the Appellate Court's decision in the *mandamus suit* was decisive against the Trustees in the *quo warranto* proceeding.

The decision of the Supreme Court is of great importance to many other nonprofit Illinois corporations which hold annual meetings outside the state of Illinois. Had the earlier Appellate Court decision been sustained, all acts of such associations at meetings held outside the state would necessarily have been illegal and void.

All questions so long litigated in these cases have now been finally set at rest and in favor of the Association. The by-laws are declared to be in conformity with the Illinois laws; the methods of electing Delegates and Trustees are approved as lawful; and the holding of annual meetings for the election of Trustees and the doing of all other business of the Association required to be done under the by-laws at such annual meetings are approved as being in strict conformity with the laws of Illinois.

ADDENDA TO TRUSTEES' REPORTS

Appended to this report will be found the reports of the Treasurer and Auditors, which speak for themselves. This year, it will be noticed, for the first time in four years, the showing is very satisfactory. This is in part owing to an increased income from advertising, but in part also to the curtailment of some of the Association's work, especially that of the Council on Health and Public Instruction.

The Board of Trustees invested $17,000 in the first Liberty Loan and $23,000 in the second. The option which the first issue of these bonds provided was taken advantage of, namely: they were exchanged for the second issue. Hence the Association has $40,000 of the second Liberty Loan, 4 per cent. bonds. The Board also invested $25,000 in the third Liberty Loan, 4.25 per cent. bonds. Thus it has a total of $65,000 invested in these bonds.

DEATH OF DR. MCKNIGHT

It is with sincere regret, and with the feeling of great loss, that we record the death of Dr. Edward J. McKnight, a

member of the Board of Trustees. Dr. McKnight died at his home, in Hartford, Conn., on Christmas Day last, from angina pectoris. While he had been a member of the Board of Trustees only a short time, he had endeared himself to each of the members of the Board. Few men in the medical profession were more highly regarded than he, not alone because of his personalities and his delightful character, but also because he was an earnest, conscientious worker, with a humanitarian interest in his fellow men such as few possess.

WAR WORK

A word as to the part the Association has been taking in the war medical work. In certain quarters there seems to be an idea that the Association has not made use of its opportunities or rendered to the government the service of which it was capable. War was declared April 6, 1917. THE JOURNAL for April 7 contained four editorials in which it was stated that war was certain. These editorials emphasized the needs of the Army and of the Navy for medical officers, and called on the medical profession to be ready to respond. The following week it published the facts relative to the number of graduates available from medical colleges, and emphasized the importance of maintaining the supply of physicians through the medical schools. In the issue for April 21 it issued a call to the profession of the United States, through the county societies, to supply the Army with medical officers. In that issue were printed 65,000 blank forms for making application for commission in the Medical Corps, and also in the Reserve Corps, and the announcement was made that the Association was prepared to send pamphlets, circulars and other information regarding the medical service of the Army and of the Navy. In addition to other information regarding the Reserve Corps, THE JOURNAL on April 28 published the first list of medical examining boards. On May 26 it again published application blanks—this time 67,000. From this time THE JOURNAL carried on a propaganda to build up the Reserve Corps, and in other ways to cooperate with the Surgeon-General's Office of both the Army and the Navy.

In connection with this work there naturally has been a large amount of correspondence. Since the beginning of the war the Association officers have answered, both by letter and by publication, thousands of questions relative to the service, thus relieving the offices of the Surgeons-General of this burden. Besides the application forms contained in THE JOURNAL (132,000), the Association has printed and sent out over 60,000 additional forms, or a total of nearly 200,000.

In May, 1917, a proposition was submitted to the Surgeon-General providing for a personal appeal to all physicians under 55 years of age. The plan was endorsed by the Surgeon-General, and Major J. R. McKnight of the Medical Corps was assigned to THE JOURNAL office to represent the Surgeon-General and to supervise the work. By detailing an officer for this work, the Surgeon-General made it possible to use franked envelopes and so saved the Association postage charges. The work was begun on May 28, and completed about the end of October. The Association, in addition to supplying the biographical data from its files and records, did the necessary printing connected with the work and furnished other facilities. However, the work was conducted ostensibly by the Central Division of the War Department, in Chicago, which means that the Association was unknown in the work.

The proposition as outlined, and as carried out, required the sending of a circular letter to every physician under 55 years of age. This letter extended an invitation to the one addressed to apply for commission in the Medical Reserve Corps, and was signed by Major McKnight, representing the Medical Corps. A card was enclosed—with a return franked envelope—on which the recipient was asked to give certain information regarding himself, his social conditions, and whether he would apply for commission at that time, or later—in the latter case when. An application blank and all the information necessary, including a list of examining boards, also was enclosed. To those physicians who did not answer, a second letter was addressed. All told—including the first letter and the follow-up—68,597 letters were sent out; and up to the time Major McKnight was relieved, returns had been received from 34,479 physicians. These replies are still coming in.

In his final report to the Surgeon-General, Major McKnight said:

"In following this work and noting the number of applicants for commissions in the Medical Reserve Corps, we have seen a marked increase in these applicants reported from the different states immediately following the mailing of letters to the physicians of those states. This increase was noted to follow the mailing of both the first and second letter.

"This work, which has been conducted in connection with the American Medical Association and in cooperation with Major Simmons, will be completed in a few days, with the exception of the delayed replies and certain letters of inquiry on subjects related to the Medical Reserve Corps. . . .

"The American Medical Association have not only placed their files at our disposal for this work, but have rearranged their card system from time to time for our convenience, have furnished all materials other than the franked envelopes, have done all the printing and rendered every possible assistance in a most admirable manner."

In addition to this effort to increase the Reserve Corps, the Association's plant has printed a large amount of material without cost to the government. In a word, from the beginning of the war all the facilities of the Association, including its biographical information, its printing plant—everything—have been at the disposal of the Surgeon-General's Office, and every aid possible was rendered him.

As regards this point, the following letters from Surgeon-General Gorgas, dated February 22, bear witness. The first is addressed to the chairman of the Board of Trustees; the second, to the Secretary of the Association.

Dear Doctor McDavitt:—In answer to your letter dated Feb. 14, 1917, I am very glad to acknowledge the great service which the American Medical Association has given, with and without solicitation, to me personally and to the Office of the Surgeon-General, in the solution of the important problems of preparedness for war and of the medical and surgical care of our boys in training camp and field by the Medical Department of the Army.

Through the officers, THE JOURNAL and educational propaganda distributed by the American Medical Association, we have secured thousands of officers of the Medical Reserve Corps. The Office of the Surgeon-General and the Medical Department of the Army still need your aid and support.

Permit me to thank you and through you the other trustees and officers of the Association for the valuable help already rendered and for the acceptable offer of a continued life service.

Dear Doctor Craig:—It gratifies and affords me pleasure to acknowledge the great services rendered by the American Medical Association, to me personally and to the Office of the Surgeon-General, in organizing the Medical Department of the Army for the efficient care of our soldiers in training camp and field.

Since April, 1917, the Board of Trustees, the officers at the Chicago headquarters, THE JOURNAL and all the machinery of the American Medical Association have been important and distinctive factors through which many thousands of physicians have been influenced to apply for commissions in the Medical Reserve Corps; medical officers have received valuable instruction by means of special articles printed in THE JOURNAL and also through literature distributed in pamphlet form from the office; and in other ways too great to enumerate here.

The spirit of service expressed by the officers and members of the American Medical Association in so many helpful ways, in the work of preparation for war and for actual surgical and medical care of our soldiers in war, evidences a patriotism and devotion to country which is a credit to the American medical profession.

I accept and thank you and through you the other officers of the Association for the offer to continue the same services of the Association to the Medical Department of the Army as long as may be.

On October 13, on invitation of the Provost Marshal-General's Office, the general manager held a consultation with Colonel Johnson and Major—now Colonel—Easby-Smith relative to establishing medical advisory boards in connec-

tion with the carrying out of the selective service regulations. Supplementary to this conference the following letter was received from the Provost Marshal-General:

WAR DEPARTMENT

OFFICE OF THE PROVOST MARSHAL-GENERAL

Washington, D. C., Oct. 13, 1917.

Dr. G. H. Simmons,
Cosmos Club,
Washington, D. C.

My Dear Dr. Simmons:

There is, in course of preparation, new regulations governing the draft. These new regulations put into effect a plan built on principles that constitute a radical departure from anything that has been done before. In brief, it is proposed to inquire into the economic, family, and industrial relations of every person liable to military service. This is to be done by means of an exhaustive questionnaire which every registrant is required to submit to his Local Board. On receipt of the questionnaires of all registrants, the Local Board will proceed to classify all registrants in five classes, arranged in the order of their availability for military service. Classes two, three, four and five are, for all substantial purposes, temporarily discharged from the draft. Class one, alone, is immediately available for military service. Class one is composed largely of single men, and those whose relation to industry and agriculture is such that they can be taken without disturbing the economic interests of the nation.

The question of determining the physical fitness of registrants is not the least of our difficulties. In the proposed scheme it would be futile and unwise to examine those registrants who are in deferred classes. Our problem, then, is to provide immediately for the physical examination of Class one.

Under the plan for physical examination in effect for the first draft, an examining physician attached to a Local Board examined registrants before the list had been culled by exemption and discharge. If the examination resulted in a finding of physical disqualification, the registrant was reexamined by another physician. If both physicians found him disqualified, he was ordinarily discharged from draft.

This system left much to be desired. Examinations were made most hurriedly in the absence of proper apparatus. Sometimes enormous personal pressure was brought to bear on the discretion of the physican, and while no single case of improper conduct has arisen, it is not in the nature of things that, in the close relation between local physicians and their clientele, impartial consideration was not in some instances clouded. The system is not fair to the examining physician, nor to registrants, nor to the government.

It is proposed to cure this fault. It is planned to establish Medical Advisory Boards, not necessarily integrated with the territorial jurisdiction of either Local or District Boards but having headquarters with sufficient apparatus and conveniences so located as to be accessible to Boards in the portion of the state in which Advisory Boards are situated. Any case in which the local examining physician has held the registrant disqualified for service (unless the disqualification is obvious) or in which the local physician is in doubt, or in which the registrant feels aggrieved by the decision of the local physician, or where the Local Board or the Government Appeals Agent desires to appeal the findings of the local physician, is to be sent to the Medical Advisory Board for an exhaustive reexamination on which the Local Board can proceed to a final determination.

We are going to strive to give this great sifting and classification of registrants definition as a National effort in the accomplishment of which we hope to have the President call upon every citizen to assist according to his qualifications and talents. Our problem as to the Medical Advisory Boards is, I think, one of organization. The system of Advisory Boards must, if it is to be effective and if it is to be given an official status, be 100 per cent. perfect. In order to accomplish this it is necessary to have at each state headquarters some person, I think a physician, who will be responsible for the prompt, scientific and efficient organization of the state. His problem will be to consider the transportation difficulties, to locate an Advisory Board in places within his state where there are proper apparatus and conveniences, to select and to recommend to the governor, or it may be to the President, the personnel of each of such Boards. In short, he must envision his state as a system, and must create the working boards of that system. It has been suggested that a physician in the Medical Reserve Corps in each state should be called to active service, given an official status in supervision of Medical Advisory Boards, and possibly of local examining physicians within the state. I like this. I think it is practicable. I am inclined to believe that it is the only way to obtain a responsible person in each state to whom we can look for efficient organization.

We need the active and vigorous cooperation of the American Medical Association. We need the promptest and most thorough action in this regard. Will you not call together a sufficient number of your executive council to authorize this cooperation by the Association, and to consider a definite and concrete proposition which can be presented here, and upon which we can act?

Yours very truly,

HUGH S. JOHNSON,
Lieutenant-Colonel, Judge Advocate,
Executive Officer.

In response to this, the Board of Trustees met in special session on October 19. It officially offered the cooperation of the Association and its officers to the Provost Marshal-General in the proposed formation of these medical advisory boards. A committee was appointed, to be known as the War Committee of the Association, composed of: Dr. Hubert Work, chairman of the House of Delegates, as chairman; Dr. E. J. McKnight, a member of the Board of Trustees; and Dr. M. L. Harris, Secretary of the Board of Trustees. On the death of Dr. McKnight, Dr. A. R. Mitchell of Lincoln, Neb., a member of the Board of Trustees, was appointed on the War Committee; and the President and Secretary of the Association and the Editor of THE JOURNAL, *ex-officio*, were made members of the committee. This committee will make a report covering its work.

Respectfully submitted,

THOMAS MCDAVITT, Chairman,
M. L. HARRIS, Secretary,
WENDELL C. PHILLIPS,
A. R. MITCHELL,
OSCAR DOWLING,
PHILIP MARVEL,
W. T. SARLES,
H. BERT ELLIS.

Addenda to Trustees' Report

SUBSCRIPTION DEPARTMENT

The regular weekly issue of THE JOURNAL of the American Medical Association, from January 1, 1917, to December 1, 1917, inclusive (52 issues), was as follows:

January 6	66,842		July 7	65,457	
January 13	66,412		July 14	65,606	
January 20	64,531		July 21	65,564	
January 27	65,299		July 28	65,603	
	263,084				262,230
February 3	65,379		August 4	65,249	
February 10	64,641		August 11	65,801	
February 17	64,522		August 18	66,646	
February 24	64,561		August 25	66,597	
	259,103				264,293
March 3	66,242		September 1	72,017	
March 10	64,434		September 8	70,207	
March 17	65,190		September 15	72,459	
March 24	65,098		September 22	72,582	
March 31	64,873		September 29	72,773	
	325,837				360,038
April 7	66,638		October 6	72,862	
April 14	65,086		October 13	66,718	
April 21	64,615		October 20	70,673	
April 28	67,494		October 27	75,670	
	263,833				285,923
May 5	72,344		November 3	70,600	
May 12	64,845		November 10	66,864	
May 19	70,612		November 17	68,031	
May 26	67,514		November 24	67,808	
	275,315				273,303
June 2	65,897		December 1	67,914	
June 9	65,927		December 8	68,525	
June 16	65,778		December 15	68,910	
June 23	65,671		December 22	68,591	
June 30	65,938		December 29	68,614	
	329,211				342,554
Total					3,504,724
Weekly average					67,399

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

This table gives the number of physicians (based on the fifth edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage in each state. Copies to physicians

in the United States Army, United States Navy, United States Public Health Service, etc., are not included.

State	Number Receiving JOURNAL	Physicians in State 5th A. M. Dir.	Approx. Percentage 5th A. M. Dir.
Alabama	630	2,569	25
Arizona	206	307	67
Arkansas	608	2,637	23
California	2,917	5,687	51
Colorado	814	1,733	47
Connecticut	998	1,678	54
Delaware	92	261	35
District of Columbia	593	1,482	40
Florida	400	1,321	30
Georgia	1,092	3,421	32
Idaho	212	439	48
Illinois	5,902	10,648	55
Indiana	1,734	4,872	36
Iowa	1,786	3,751	48
Kansas	1,322	2,683	49
Kentucky	1,042	3,584	29
Louisiana	665	2,060	32
Maine	461	1,205	38
Maryland	1,020	2,292	45
Massachusetts	3,194	5,869	54
Michigan	2,294	4,360	53
Minnesota	1,668	2,447	68
Mississippi	416	2,048	20
Missouri	2,085	6,399	31
Montana	361	636	57
Nebraska	1,071	1,911	56
Nevada	83	154	54
New Hampshire	349	690	51
New Jersey	1,442	3,239	45
New Mexico	230	430	53
New York	7,486	15,670	48
North Carolina	737	2,102	35
North Dakota	371	586	63
Ohio	3,457	8,045	43
Oklahoma	891	2,634	34
Oregon	488	1,187	40
Pennsylvania	5,705	11,502	50
Rhode Island	457	772	59
South Carolina	517	1,399	37
South Dakota	371	676	56
Tennessee	984	3,457	28
Texas	1,987	6,240	32
Utah	284	465	63
Vermont	240	668	36
Virginia	963	2,547	38
Washington	837	1,695	49
West Virginia	769	1,729	45
Wisconsin	1,599	2,803	56
Wyoming	143	251	57

The following table shows the number of Fellows and subscribers on THE JOURNAL mailing list, for each year, commencing with 1900:

Year	Fellows	Subscribers
January 1, 1900	8,445	4,633
January 1, 1901	9,841	8,339
January 1, 1902	11,107	10,795
January 1, 1903	12,553	12,378
January 1, 1904	13,899	14,674
January 1, 1905	17,570	15,698
January 1, 1906	20,826	17,669
January 1, 1907	26,255	20,166
January 1, 1908	29,382	20,880
January 1, 1909	31,999	18,983
January 1, 1910	33,032	19,832
January 1, 1911	33,540	20,504
January 1, 1912	33,250	21,620
January 1, 1913	36,082	19,863
January 1, 1914	39,518	19,751
January 1, 1915	41,254	20,430
January 1, 1916	41,938	22,921
January 1, 1917	42,744	22,156
January 1, 1918	43,420	23,117

During 1917 there were 2,943 names transferred from Subscription Department and 158 from *The Archives of Internal Medicine* and *The American Journal of Diseases of Children* to the Fellowship Department; also 120 from *The Archives* and the *Children's Journal* mailing list to that of THE JOURNAL A. M. A., and 56 from THE JOURNAL list to *The Archives* and *The American Journal of Diseases of Children.*

The total number of transfers to Fellowship was 3,101.

There were 394 discontinued as Fellows, but continued as subscribers.

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ended December 31, 1917.

ASSOCIATION RESERVE FUND

Reserve Fund as at December 31, 1916		$120,648.95
Receipts for the year ended December 31, 1917:		
Investments	$ 40,000.00	
Interest	5,587.32	
		45,587.32
Reserve Fund as at December 31, 1917		$166,236.27

TREASURER'S GENERAL ACCOUNT

Balance as at December 31, 1916		$ 3.52
Receipts for the year ended December 31, 1917:		
Transfer from General Working Fund	$ 40,000.00	
Interest on Bank Balances	276.41	
		40,276.41
		$ 40,279.93
Disbursements for the year ended December 31, 1917:		
Transferred to Reserve Fund		$ 40,023.31
Balance as at December 31, 1917		$ 256.62

DAVIS MEMORIAL FUND

Balance as at December 31, 1916	$ 3,440.71
Interest received for the year ended December 31, 1917	103.98
Balance as at December 31, 1917	$ 3,544.69

AUDITORS' REPORT

CHICAGO, ILL., Jan. 24, 1918.

The Board of Trustees of the
American Medical Association, Chicago, Illinois.

Gentlemen:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1917, and now submit our report thereon.

SURPLUS ACCOUNT

The surplus at the beginning of the year amounted to $382,135.69, and the surplus at the end of the year amounted to $423,433.87, an increase of $41,298.18, which is accounted for as follows:

Net Gain on Operations	$77,303.56
Transfer from Liability Insurance Reserve Fund	4,017.93
	$81,321.49
Less Transfer to Reserve Fund	40,023.31
Net Increase in Surplus	$41,298.18

The net increase in surplus is spread over the assets and liabilities as follows:

Increase in Assets:		
Property and Equipment		$ 1,174.11
Current and Working Assets		43,982.05
		$ 45,156.16
Less Decrease in Prepaid Expenses		489.96
		$ 44,666.20
Less Increase in Liabilities:		
Accounts Payable	$ 4,907.29	
Less Decrease in Advance Payments on Publications	1,539.27	
		3,368.02
Net Increase in Surplus, as above		$ 41,298.18

FINANCIAL POSITION

The financial position of the Association as at December 31, 1917, is shown in the following statement:

BALANCE SHEET AS AT DECEMBER 31, 1917

ASSETS:		
Property and Equipment at Cost, less Depreciation:		
Real Estate and Buildings		$240,264.09
Machinery		42,875.95
Type and Metals		7,853.72
Furniture and Equipment		13,518.00
Chemical Laboratory		1,564.91
Library		1,278.04
		$307,354.71
Reserve Fund Investment		166,236.27
Current and Working Assets:		
Inventory of Materials, Supplies and Work in Process	$41,720.59	
Accounts Receivable:		
Advertising	$26,351.58	
Cooperative Medical Advertising Bureau	6,548.47	
Reprints	2,904.45	
Miscellaneous	3,778.62	
	39,583.12	
Notes Receivable	437.74	
Directory, 6th Edition (Labor and Material)	20,252.38	
Cash in Bank and on Hand	23,107.88	
Office Fund	50.00	
	125,151.71	
Prepaid Insurance	1,244.18	
Total		$599,986.87

LIABILITIES:		
Accounts Payable:		
Cooperative Medical Advertising Bureau	$ 4,412.62	
Sundry	3,210.37	
	$ 7,622.99	
Advance Payments on Publications	2,693.74	
Association Reserve Fund	166,236.27	
Surplus	423,433.87	
Total		$599,986.87

The balance sheet submitted, in our opinion, correctly reflects the financial position of the Association as at December 31, 1917, subject to provision for accrued interest, taxes and "Journal" subscriptions paid in advance, less subscriptions and memberships due and unpaid.

We examined the securities representing the investment of the Association Reserve Fund, and we found them in order.

We verified the cash on hand by actual count and the cash in bank by certificates obtained from the various depositories. The following is a statement of the cash balances:

Continental and Commercial National Bank	$ 22,546.77
First Trust and Savings Bank (Treasurer's Account)	256.62
Cash on Hand	304.49
Cash Fund	50.00
Total	$ 23,157.88

OPERATIONS

The operations of the Association for the year ended December 31, 1917, are shown in the following statements:

INCOME AND PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED DECEMBER 31, 1917

JOURNAL:			
INCOME:			
Fellowship Dues	$ 43,569.00		
Subscriptions	274,918.25		
Advertising	264,996.52		
Jobbing	7,349.67		
Books	4,990.84		
Reprints	3,079.21		
Buttons	80.36		
Miscellaneous Sales	8,670.39		
Interest	2,006.07		
	$609,660.31		
Expenses, Schedule "1"	452,692.31		
Net Income from "Journal"			$156,968.00
MISCELLANEOUS INCOME:			
Cooperative Advertising Bureau	$ 203.06		
Directory, 5th Edition	1,608.10		
Rent, Building "B"	300.00		2,111.16
			$159,079.16
Association Expenses, Schedule "2"	$67,972.22		
Less:			
Rentals	$ 3,720.00		
Interest on Treasurer's Account	276.41		
Session	2,918.49	6,914.90	
	$61,057.32		
Miscellaneous Expenses, Schedule "3"	20,718.28		81,775.60
Net Gain on Operations			$ 77,303.56

JOURNAL EXPENSES—SCHEDULE "1"

Wages and Salaries	$158,659.87	
Editorials, News and Reporting	9,815.32	
Paper—JOURNAL Stock	165,966.73	
Paper—Miscellaneous	7,280.61	
Electrotypes	6,691.44	
Binding	216.25	
Ink	5,213.96	
Postage—First Class	15,551.61	
Postage—Second Class	27,924.85	
JOURNAL Commissions	8,649.14	
Collection Commissions	2,650.19	
Discounts	4,147.44	
Express and Cartage	2,800.72	
Exchange	2,673.22	
Office Supplies	609.89	
Telephone and Telegraph	873.43	
Office Jobbing	3,148.90	
Miscellaneous	7,103.90	
Power and Light	3,422.18	
Fuel	3,310.93	
Factory Supplies	4,384.53	
Repairs and Renewals—Machinery	3,623.10	
Bad Debts Written off, Less Recoveries	210.70	
		$444,928.91

DEPRECIATION:				
Property and Equipment:	Rate	Amount		
Building "B" (New)	2½%	$ 4,289.21		
Machinery	Reinventoried	566.67		
Furniture and Equipment	Reinventoried	1,161.51		
Factory Equipment	Reinventoried	70.60		
Type	15%	691.26		
Metal	20%	984.15	7,763.40	
Total				$452,692.31

ASSOCIATION EXPENSES—SCHEDULE "2"

Propaganda			$ 7,930.56
Association			15,657.72
Health and Public Instruction			8,778.34
Pharmacy and Chemistry and Chemical Laboratory			12,998.79
Medical Education			7,200.00
Organization			3,686.54
Therapeutic Research			729.55
Laboratory Depreciation—10%			173.88
Biographical			10,398.80
Building "A" Expense:			
Depreciation, 2½%	$ 388.12		
Sundries	29.92		418.04
Total			$ 67,972.22

MISCELLANEOUS EXPENSES—SCHEDULE "3"

Insurance and Taxes		$ 6,237.03
Legal and Investigation Expense		10,046.16
Building "B" Maintenance		1,534.16
Archives		1,635.40
Children's Journal		254.29
Cumulative Index		691.73
Depreciation on Library—20%		319.51
Total		$ 20,718.28

The audit embraced an exhaustive test of the various sources of income and the verification of the cash disbursements with proper vouchers on file.

We are pleased to report that we found the accounting records to have been kept in the usual good order, and that every facility was afforded us for the proper conduct of the audit.

Yours truly,
MARWICK, MITCHELL, PEAT & Co.,
Chartered Accountants.

Report of the Judicial Council

Dr. Alexander Lambert, New York, Chairman, presented the following report of the Judicial Council. This report was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

To the Members of the House of Delegates of the American Medical Association:

There has been presented to the Judicial Council by the president of the University of Minnesota the following contract asking for an opinion whether or not the adoption of this agreement would be contrary to the standards and code of medical ethics of the American Medical Association.

This Agreement made in triplicate this day of January, A. D. 1918, by and between E. C. Kendall, party of the first part, William J. Mayo and Charles H. Mayo, parties of the second part, and University of Minnesota, party of the third part, witnesseth:

WHEREAS, The party of the first part, working under the auspices and in the employment of the parties of the second part, has discovered an agent for the treatment of disease, which has been by him designated "Thyroxin" and has applied for letters patent of the United States thereon, and intends hereafter to apply for letters patent in various foreign countries; and

WHEREAS, It is the desire of all the parties hereto that said substance shall not be commercially exploited for private gain, and that it shall be manufactured and sold with the expressed object of making it available for use in such a way as to do the greatest amount of good for the greatest numbers, and that the same may be dispensed free of charge to patients unable to pay for it;

Now, THEREFORE, To carry said objects into effect, it is mutually agreed by and between the parties hereto, that the said party of the first part does hereby give, grant and convey unto the said party of the third part the said preparation and trade name and all and every of his rights as a discoverer thereof, and in order further to vest title thereto in said party of the third part, does hereby agree to make, execute, acknowledge and deliver unto said party of the third part so soon as any patent or patents shall be granted unto him, all deeds, assignments and other conveyances necessary to transfer to said party of the third part any and all patents, whether domestic or foreign, which may be hereafter issued to said party of the first part in connection with said discovery, and any and all patents, foreign or domestic, concerning the production of the active constituent of the thyroid, and does hereby further give, grant and convey all his right, title and interest in and to the trade-name hereinbefore set forth.

The said parties of the second part do hereby also give, grant and convey unto said party of the third part all their right, title and interest in and to said preparation and said trade-name.

It is further mutually understood and agreed by and between the parties hereto that said gift is made by said parties of the first and second part, and accepted by said party of the third part, upon the following conditions, to-wit:

1. That the said party of the third part shall cause said preparation or any improvement or alteration thereof to be manufactured and placed upon the market for such monetary return as shall be consistent with making it available for use in such a way as to do the greatest good and render the use thereof most generally available for the benefit of the human race, and may cause the same, when so manufactured, to be distributed without charge to persons who cannot afford to pay for it. The party of the third part shall have the right to grant subsidiary rights and privileges thereunder, either upon royalties or otherwise. The party of the third part agrees that it will use reasonable diligence to utilize said rights as aforesaid, but it is particularly agreed, and the party of the third part accepts said gift only upon the condition, that it shall be sole judge as to what is reasonable diligence in the respect mentioned, and that it shall not be pecuniarily or legally responsible for any want of diligence in such respect unless the same be in bad faith or the equivalent of bad faith, and that in view of the fact that the party of the third part is a public corporation all of whose funds are derived from the public, or held upon trust, the party of the third part shall not be pecuniarily or legally liable under any circumstances whatsoever except to the extent of such rights or the proceeds, profits or returns in its hands at the time of recovery against it.

2. That said party of the third part may annually pay said party of the first part such sums as the party of the third part may deem to be equitable but in no event to exceed in any year 10 per cent. of the net proceeds received by the party of the third part from the sale of the substance in that year; and in the event of the death of said party of the first part may annually pay such sum as said party of the third part may deem equitable to the wife or heirs at law of said party of the first part not to exceed in any year 10 per cent. of the net proceeds received by the party of the third part from the sale of the substance in that year; providing that all such payment to the heirs at law of the party of the first part shall cease when the youngest child of the said party of the first part shall become 21 years of age.

3. That the money which shall have been derived from the sale of this substance shall become part of the funds of the "Mayo Foundation for Medical Education and Research," and except as hereinbefore provided, shall be expended for research into the physical and chemical properties and mode of action particularly of the substance now known as Hormones in the animal organism, and generally, into the physical and chemical properties and mode of action of the substances now known as Enzymes.

4. The expenditure of the funds so derived shall be under the direction of an Executive Committee consisting of three men engaged primarily and directly in research work, which said committee shall be appointed by said party of the third part. Members of the said Committee shall each be appointed for a term of six years and shall be eligible for reappointment. The first appointees, however, shall serve as designated in their appointments for terms of two, four and six years respectively. Any member of said committee may be removed upon recommendation of two-thirds thereof and upon a vote, in favor of such removal, of the majority of the Regents of said party of the third part.

5. Should it at any time be decided, by the vote of two-thirds of said Executive Committee, concurred in by the vote of a majority of said Board of Regents, that it shall no longer be desirable to continue such research work along the lines hereinbefore set forth, and that the same shall be permanently abandoned, then, and in that event, all of the funds then on hand arising from the sale of said preparation, and all funds which may thereafter arise therefrom, shall become and be part of the funds of said "Mayo Foundation for Medical Education and Research" and be administered in accordance with the contract relating thereto heretofore entered into by the said parties of the second and third part.

IN TESTIMONY WHEREOF, The said parties of the first and second part have hereunto set their hands and seals; and the said party of the third part has caused this instrument to be executed by its proper officers and its Corporate Seal to be hereunto affixed the day and year first above written.

This contract is evidently a bona fide agreement proposed to be entered upon between a chemist, two members in good standing in the American Medical Association and a state university conducting a high grade and ethical medical school, the members of the medical faculty of which are members of the American Medical Association.

The Judicial Council must therefore assume and does assume that its official opinion is honestly sought and honestly desired. This is therefore no mere hypothetical question asking for an expression of opinion which cannot be considered by the Judicial Council according to its Rules of Procedure (Rule 6, Rules of Procedure and Rules 1 and 2, Methods of Procedure).

On the contrary, this is an agreement which the Judicial Council has discretionary powers to consider since "the Judicial Council may at its discretion investigate general professional conditions and all matters pertaining to the relations of physicians to one another and to the public and shall make such recommendations to the House of Delegates and to the constituent associations as it deems necessary" (Chapter VII, Section 4, last section of By-Laws). The relations of physicians to one another and to the public are questions raised in this agreement and its consideration by the Judicial Council is a proper one whether this be asked for by the public as here represented in the president of a state university, a public institution, or whether this request has come to the Judicial Council at the instance of the physicians who are parties to the agreement. There are no set rules for the exercise of the discretionary power of investigation by the Judicial Council, it alone can decide whether or not such questions as are under discussion shall come before it and how they shall be presented. This agreement under consideration is therefore one properly presented to the Council and over which it has original jurisdiction and which in its discretion it may consider and upon which it may duly make recommendations to the House of Delegates.

This agreement states that E. C. Kendall, an employee, working under the auspices of Drs. William J. and Charles H. Mayo has discovered an agent "Thyroxin" for the treatment of disease and has applied for letters patent of the United States thereon and intends to apply for letters patent in foreign countries. E. C. Kendall agrees to give all patent rights and titles and trade name to the University of Minnesota and the Drs. Mayo agree to give all their rights, titles, etc., in this same medical discovery, to the the same university. The university agrees to do all the selling and exploiting of the medical discovery and agrees to give 10 per cent. of the returns to E. C. Kendall and to cover in to the present Mayo foundation fund of the university the remainder and use them for scientific investigations and for the furtherance of scientific study.

From time immemorial it has been unethical for members of the American medical profession to patent medical discoveries and use the proceeds for gain. The Judicial Council is of the opinion that the same standard which applies to individuals must also be conformed to by partnership companies and corporations of which a physician is a member. In other words, a physician cannot escape personal responsibility by making a group of which he is one the agent that acts in a manner in which the physician himself would not act. In recent years, it has been held to be ethical and the Judicial Council has so considered it that any physician could patent a medical discovery and give the patent rights and titles to the trustees of some medical society to hold and not use or exploit for commercial gain. This has been done to prevent the exploitation of the profession and public for personal gain on medical discoveries. The American medical profession has always held it to be more honorable and more in conformity to its high ethical ideals and standards to refuse to burden any medical discovery with the added tax imposed by patents and has universally considered that the greatest good to the greatest number could best be obtained by foregoing the patenting and commercial exploitation of medical discoveries for gain. It would not be unethical for the Drs. Mayo to have E. C. Kendall, their employee, and working under their auspices, patent his medical discovery and give these letters patent and patent rights and titles to some medical society to hold and not use for gain. But it would be unethical to convey the rights of this patented medicine to any third party to use and commercially to exploit for gain, no matter to what honorable use the commercial proceeds may be put. The ethics of patenting a medical discovery are not overshadowed or affected by the use to which the returns from the sale of the patented medicine may be put.

It is therefore the opinion of the Judicial Council that it would be unethical to consummate this agreement. It would be unethical for the University of Minnesota because it would be unethical for the members of its medical faculty to agree to accept a patent and patent rights which the university proposed to use for commercial gain, just as much so as it would be unethical for these medical men individually to patent or accept a patent of a medical discovery and exploit it for personal gain. It would be unethical for the Drs. Mayo on their part to consummate this agreement for they would be patenting a medical discovery and using the commercial proceeds therefrom to increase a fund given by them to the university and it would still be unethical for them to patent the medical discovery and turn over to a third party the commercial exploitation thereof.

It will be recalled that at the Detroit session in 1916, the House of Delegates adopted the following resolution:

Resolved, That the Board of Trustees of the American Medical Association may accept, at their discretion, to hold, to control and to manage, as trustees for the benefit of the people and the protection of the medical profession, such patents on chemicals, remedial or diagnostic substances, medical or surgical instruments or appliances, or anything whatsoever that may be used in the treatment of disease or infirmity and for which a patent may be issued, as the patentee may desire to convey to the American Medical Association for the

public protection and benefit; provided, that the patentee shall surrender all claim to remuneration from the royalties or otherwise on such patent or patents to the Board of Trustees of the American Medical Association, which Board of Trustees shall not exact from the manufacturer or producer under such patent or patents, any royalty or other pecuniary compensation or return therefrom, unless, in the judgment of the Board of Trustees, the exaction of such royalty shall appear to be wise and just and for the better protection of the public or the medical profession.

This resolution was substituted for a previous resolution relative to this matter, adopted by the House in 1914, which was as follows:

Resolved, That the Board of Trustees of the American Medical Association shall be permitted to accept, at their discretion, patents for medical and surgical instruments and appliances, as trustees, for the benefit of the profession and the public; provided, that neither the American Medical Association nor the patentee shall receive remuneration from these patents.

According to the resolution now in force, the Board of Trustees, at its discretion, may exact such royalties as "shall appear to be wise and just and for the better protection of the public or the medical profession."

The Judicial Council recommends that the resolution adopted in 1916 be rescinded and that the resolution adopted in 1914 be reaffirmed. It will be noted that the resolution of 1914 empowers the Board of Trustees to protect the medical profession and the public by accepting as trustees patents, provided that neither the Association, nor the patentee receive a remuneration from these patents. This is in accord with the principles of Medical Ethics which states, "It is unprofessional to receive remuneration from patents for surgical instruments or medicine" (Principles of Medical Ethics, Chap. II, Art. 1, Sec. 5).

Respectfully submitted,

ALEXANDER LAMBERT, Chairman,
A. B. COOKE,
H. A. BLACK,
RANDOLPH WINSLOW,
A. R. CRAIG, Secretary.

Report of the Council on Health and Public Instruction

Dr. Frank Billings, Chairman, read the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Legislation and Political Action.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

The work of the Council on Health and Public Instruction, like all of our other national activities, has been greatly reduced during the past year on account of war conditions. This is due not only to the absorbing interest of the public mind in problems directly connected with the conduct of the war, but also to the fact that the entire membership of the Council has been actively engaged in public service. Almost immediately after the New York Session in 1917, Dr. Frank Billings, the Chairman of the Council, was sent to Russia as chairman of a special commission. On his return after four months' absence, he was ordered to active service as an officer of the Medical Reserve Corps, first as aide on the staff of the governor of Illinois, then as special adviser to the Provost Marshal-General's office in Washington, and later to the Surgeon-General's Office for the formulation of plans for the care of the crippled and injured soldiers after the war. Dr. Walter B. Cannon of Boston went to France as an officer in the Medical Reserve Corps attached to the Harvard Base Hospital Unit, one of the first medical organizations to be sent abroad. Dr. Wilton Board has been on duty in the Medical Reserve Corps at the base hospital, Camp Zachary Taylor, near Louisville, Ky. Drs. Henry M. Bracken and Watson S. Rankin, the two remaining members of the Council, have been on constant duty as secretaries and executive officers of the boards of health of their respective states and have been cooperating with the federal government in guarding public health interests. The Secretary of the Council was ordered into active service early in August of 1917 and has been on continuous duty as an officer in the Medical Reserve Corps since that time.

Necessarily with all five members of the Council and the Secretary in service, the activities of the Council during the year have been limited to routine work. The Council office at the headquarters building in Chicago has been maintained and operated continuously, and routine correspondence and the filling of orders for educational pamphlets, charts, posters, etc., have been carried on. Owing to existing conditions and the absorption of the public mind in other topics, it has not been considered advisable to undertake any new activities or the development of any new lines of work for the present. As soon as the war is over, the Council will resume its function of public education and stimulation of interest in health topics, public health legislation, etc., with the expectation of finding a public sentiment in favor of organized, concerted and constructive public health work resulting from the educational influence of our military activities greater than has heretofore been possible. The demonstration on a large scale of the effectiveness of modern preventive medicine which has been going on in our camps cannot fail to have a marked influence on public sentiment. The entrance into the service of nearly 20,000 physicians as officers of the Medical Reserve Corps will insure in the future a degree of discipline and cooperation in the medical profession that has heretofore been impossible. The Council confidently anticipates a degree of public interest and of constructive effort along public health lines following the war such as has never before been possible in this country. To meet this situation, it is more than ever necessary that the organized medical profession should be represented in this field by a permanent board capable of carrying on a definite constructive policy, looking toward the development of the largest amount of cooperation between the organized medical profession on the one hand and the general public on the other.

The following tables show the work done by the Council during the past year in the distribution of educational material:

TABLE 1.—NUMBER AND CHARACTER OF PAMPHLETS PRINTED AND DISTRIBUTED, MAY 1, 1917, TO APRIL 1, 1918

Conservation of Vision, Pamphlet III. "Wearing Glasses"		1,000
Conservation of Vision, Pamphlet VIII. "Lenses and Refraction"		1,000
Conservation of Vision, Pamphlet XI. "Infant Blindness, or Ophthalmia Neonatorum"		500
Sex Hygiene. "Chums"		500
Sex Hygiene. "Life Problems"		1,000
Public Health. "Baby Welfare"		7,000
Public Health. "Hookworm"		8,000
Public Health. "House-Fly"		13,000
Public Health. "Measles"		11,000
Public Health. "Pure Water"		2,000
Public Health. "Scarlet Fever"		3,000
Public Health. "Smallpox"		6,000
Public Health. "Typhoid Fever"		4,000
"What You Should Know About Tuberculosis"		97,250
"Save the Babies"		18,000
"Summer Care of the Baby"		1,000
"Health Charts"		5,000
"An Outline for a Study Course on Public Health"		250
Total		179,500
Score Cards	15,000	
Record Sheets	10,000	
Total		25,000
Grand Total		204,500

From May 1, 1917, to April 4, 1918, the Council has received 2,992 and sent 5,622 letters. Requests for information and the sources from which they have come are indicated in Table 2.

TABLE 2.—SOURCES OF REQUESTS FOR INFORMATION

Source	Number
Boards and departments of health	37
Boards of Education	5
Clubs	22
Federal departments	15
Hospitals and sanitariums	14
Libraries	43
Life insurance companies	2
Medical societies	7
Nurses	60
Physicians	251
Publications	16
Universities, colleges, high schools, etc.	78
Y. M. C. and Y. W. C. associations	8
Miscellaneous	787
Total	1,345

The reports of the Chairman of the Committees on Women's and Children's Welfare and on Cooperation with the National Education Association follow.

Respectfully submitted.

FRANK BILLINGS, Chairman,
WALTER C. CANNON,
WATSON S. RANKIN,
HENRY M. BRACKEN,
MILTON BOARD,
FREDERICK R. GREEN, Secretary.

REPORTS OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

COMMITTEE ON COOPERATION WITH THE NATIONAL EDUCATION ASSOCIATION

To the Council on Health and Public Instruction:

Your committee charged with coordinating the work of the American Medical Association with that of the National Education Association reports by submitting the following memorandum of a meeting of the Joint Committee at Atlantic City:

1. An increasing number of letters is being received by the chairman of the Joint Committee for the committee reports and for information regarding various aspects of our committee program.

2. Ten thousand copies were printed of our committee third report, entitled "Health Charts." About 8,000 copies of this report have been distributed.

3. A few days before the meeting of the Joint Health Committee at Atlantic City, the chairman of the Joint Committee received a telegram from Mrs. Ira Couch Wood, Director of the Elizabeth McCormick Memorial Fund of Chicago, stating that the trustees of that fund had taken action making available $2,000 for the printing of our health chart sets. Mrs. Wood has suggested or asked, on behalf of the Elizabeth McCormick Memorial Fund, that three charts on Open-Air School and Open-Window Rooms should be printed and distributed with the Health Charts sets of the committee. The additional cost involved in this will be met by the Elizabeth McCormick Memorial Fund.

4. The Joint Committee approved the plan proposed by its chairman for the printing of a fourth pamphlet report to be called "Health Improvement in Rural Schools." This pamphlet report, not to exceed fifty pages, will give information regarding the best health work which is being carried out at the present time in the rural schools of the country. The material for this report is being provided by the generous responses which the chairman has received in answer to 1,072 questionnaires and letters which have been sent out to state superintendents of education, health officers, rural school supervisors, county superintendents, and others who are acquainted with the work in this field.

The concensus of opinion at the meeting of the Joint Committee in Atlantic City expressed itself in favor of the extension of the committee program for the consideration of health problems of the city schools as well as those in the country.

A brief summary of certain activities undertaken under the personal direction of the chairman of the Committee of the Council on Health and Public Instruction is appended:

In southern Colorado, we have kept up the protection of the teeth, eyes and health of the schoolchildren in the rural schools.

In the coal camps, an eye, ear, nose and throat specialist has been examining and treating the schoolchildren of these schools. A dentist and a special nurse are at work among the schoolchildren of the camps, treating and repairing teeth and teaching mouth hygiene.

At these camps, visiting nurses are working who devote their entire time to teaching hygiene and sanitation in the homes of the miners. This work is having a decidedly beneficial effect on the health of the community and does much to improve the schools. Owing to the importance and timeliness of first aid work, we are continuing classes in camps and schools.

The importance of architecture of schoolhouses is not being lost sight of—and whenever possible we speak of the importance of properly constructed schoolhouses, giving the unit schoolhouse as an illustration, with its faultless lighting and ventilation.

Respectfully submitted.

R. W. CORWIN, Chairman.

REPORT OF COMMITTEE ON WOMEN'S AND CHILDREN'S WELFARE

To the Council on Health and Public Instruction:

This last year, the work of our committee has been largely advisory and cooperative, instead of initiative. This has been necessary because of the lack of appropriation and the absence of the majority of the members of the Council, especially the absence of its secretary, Dr. Green. One new feature of the work has been an effort to get the various state fair boards to make provisions for a department of child welfare. The effort has met with a gracious response in all instances and a number have already established permanent departments. At one state fair, alone, 500 babies were measured and scored. A very fair and promising proportion of these were self-competing—that is, children who had entered in 1916, failed to score high because of remediable defects, were worked on according to advice received at the conference, and returned in 1917 to measure their improvement against that of the previous year.

As we have said, the bulk of our work has been cooperative. As chairman of the Child Hygiene Division of the General Federation, it has been possible to come in contact with, and help direct, the plans for child welfare in the women's clubs of the country. In this capacity, we have submitted two lines of work closely allied with the work of the American Medical Association: insistence on adequate vital statistics laws and development and furtherance of baby health conferences. The latter recommendation has necessitated the distribution of the American Medical Association Score Card, Anthropometric Table and Pamphlet No. 7, in addition to bulletins from the federal bureau, and material from the Association for the Study and Prevention of Infant Mortality.

In response to a summons from the Children's Bureau, we met in conference with child welfare workers at Washington, D. C., March 14 and 15, to discuss plans for the children's year. These plans cover three proposed drives: The measuring and weighing of all children under 5 in the United States; the establishment and increase in numbers of public health nurses; and the training of home health volunteers.

As these plans are being executed by the National Council of Defense with the assistance of the General Federation of Women's Clubs and the Parent-Teacher's Associations of the country, they offer a far-reaching field of cooperation. The American Medical Association Baby Welfare Charts, Save the Babies pamphlets and Anthropometric Tables are especially in demand. If the funds were available, and office force sufficient, an unlimited supply of material from our committee would be demanded. It is our keenest regret not to be able to meet that demand in an aggressive way, for wherever permanent stations are established there will be a demand for material and work.

The score card used for the weighing and measuring test is very simple and consequently exceedingly practical for uniform use. It is hoped that in localities where the data secured reveals the need of further investigation such investigation may be made. The Smithsonian Institution of Washington, D. C., and the Iowa Child Research Station have signified their willingness to cooperate in an advisory capacity wherever possible. In this day of reckless expenditure of adult life, we are doubly inexcusable if the rate of infant mortality is not decreased in proportion to the increased destruction of life by war. Organized effort, continuously made, and backed by adequate funds is the only solution of the problem.

Respectfully submitted.

LENNA L. MEANES, Chairman.
M. L. TURNER, Secretary.

Report of the Council on Medical Education

Dr. Horace D. Arnold, Chairman, presented the report of the Council on Medical Education, which was referred to the Reference Committee on Medical Education.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

Fourteen years ago the Council on Medical Education was established and began its efforts to improve medical education in the United States. In 1904 the number of medical schools in this country exceeded the total in all the rest of the world. As to the character of its medical schools, however, this country suffered in comparison with other countries. Medical schools abroad were mainly departments of large universities, liberally financed either by governmental or private agencies. In the United States most of the medical schools were independent and not only met all expenses from student's fees but many actually derived profits from that source. In most European countries entrance requirements were the equivalent of one and a half or two years of work as measured by courses in standard colleges and universities in this country. In the United States, in 1904, only four medical schools were requiring any college work for admission and the large majority were not even requiring a four-year high school education. Medical schools of Europe were mostly supplied with full-time, salaried teachers, including some who devoted their attention to clinical subjects. In 1904, only a few medical schools in this country had any full-time teachers in charge of their laboratory subjects. Most of the medical schools in Europe as well as those of South America were connected with large teaching hospitals. In 1906, in the United States, when the first inspection of medical schools was made, only a small proportion of the medical schools had relationships with hospitals sufficiently large to supply satisfactory clinical teaching material.

Progress in Fourteen Years

During the last fourteen years the situation has been decidedly improved. Largely through the merging of two or more colleges into one in each of many instances the sum total of medical schools has been reduced to what is more nearly the normal supply for this country. Most of the medical schools at present, however, are stronger and better equipped in every way; many of them now compare favorably with the best medical schools abroad, and a score or more are in some respects superior to the very best found anywhere. The advantages in this country at present are the higher and better supervised entrance requirements; larger staffs of well qualified, full-time laboratory teachers; closer relationships with large and well conducted hospitals; and the use of the more modern methods of practical and clinical teaching. Commercialism has been practically eliminated from medical teaching and only a few seriously low grade medical schools continue to exist. Now, as shown in Chart 1, 80 per cent. of the medical schools are requiring for admission two years of collegiate work; the majority have teaching relationships with one or more hospitals in which clinical material is abundant and being used in accordance with the latest methods of teaching.

Importance of Preliminary Education

Of all the improvements enumerated, the one of greatest importance has been the increase in entrance requirements. Without a thorough preliminary education, including a training in physics, chemistry and biology, students would not be able to master the present-day medical course, and would be seriously handicapped, however well equipped the medical school might be with teachers and laboratories. It is noteworthy that the higher admission requirements were adopted voluntarily by the majority of medical schools. In this increase, as a rule, the medical schools were supported by their local state licensing boards, so that now two years of college work have been made an essential qualification for the license in thirty states. This action by the licensing boards also induced certain other medical colleges to go on the higher standard which would not do so voluntarily. Meanwhile, it is those who are interested in medical schools of the latter type who are quick to seize on any pretext to urge a retrogression in entrance requirements, and they have recently been magnifying the country's "dire need of doctors" in the present war emergency, in the hope of securing a retrogression in the entrance requirements of medical schools. As already shown, however, the two-year standard of preliminary education has brought the entrance requirements of medical schools in this country on a par with the essential preliminary qualifications in Great Britain and the other countries of Europe. With the present standards, therefore, Americans need no longer apologize when they speak of medical education in the United States.

Reforms in Medical Education and the War

It is gratifying to know that the reforms in American medical education were so nearly completed before this country was finally drawn into the world war. For the last six or seven years the majority of medical schools have not only been enforcing the higher entrance standards but have also been operating under greatly improved conditions in other respects. The majority of students graduating in the last several years, therefore, have received a medical training equal to the best obtainable anywhere. Furthermore, it is these recent graduates who, in larger proportions, have entered the government medical services and who will be responsible for the medical care of our American soldiers and sailors. It is a matter of congratulation, therefore, that those fighting for the preservation of America and American ideals will have as skilled medical care as those of the opposing armies. This could not have been said had it not been for the energetic campaign of the last fourteen years to improve medical education.

No Dearth of Physicians but an Increased Demand

The war has affected the supply of physicians, even as it has reduced the supply of those in other technical occupations. In recent years also the demand for medical graduates to fill positions as hospital interns, health officers, medical inspectors, medical teachers and other positions of responsibility has been greatly increased. This increased demand is due, not to any scarcity of medical graduates, but to the improved qualifications of those now graduating from our medical schools. In former years this demand did not exist, for the very reason that many of the graduates then turned out were not qualified, educationally or professionally, to occupy the positions now open to them. The increase in the demand has been in direct proportion to the improvements in preliminary and medical education.

Demand for Better, Not Lower, Education

Even for Army purposes the great demand is not so much for ordinary physicians or surgeons as for those of highly technical and special training. Emphatically, therefore, the present demand does not call for a lowering of educational standards, but for the maintenance of present entrance requirements (two years of college work); for further improvements in laboratory and clinical equipment and, particularly, for improved methods of teaching in all medical schools. It is only by maintaining these fair standards that the demand will be supplied, since in the better medical schools, the number of graduates has steadily increased each year for the last five years, while the number graduating each year from the lower grade colleges *has steadily decreased.*

Medical Education for Negroes

One result of the campaign for an improved medical education has been that a generous financial support has been provided for medical schools, either from state appropriations or private sources. The gifts, which at first were of a few thousands of dollars, were soon increased to hundreds of thousands and then to millions, and in recent years gifts of the larger sums have become almost commonplace. These generous gifts indicate the general recognition of the fact that a medical school needs a liberal income in addition to

students' fees if it is to furnish a training in accordance with present-day medical knowledge.

In the providing of funds, however, it appears that medical schools for negro students have been largely overlooked, although their need for such support is proportionately

TABLE 3.—STATE REQUIREMENTS OF PRELIMINARY EDUCATION

State Examining Board of	One Year of College Work		Two Years of College Work	
	Affects Students Matriculating	Affects All Graduates	Affects Students Matriculating	Affects All Graduates
Alabama	.....	....	1915-16	1919
Alaska	1914-15	1918	1918-19	1922
Arizona	1914-15	1918	1918-19	1922
Arkansas	1915-16	1919	1918-19	1922
California	1915-16	1919	.....	....
Colorado	1908-09	1912	1910-11	1914
Connecticut	1911-12	1915	.....	....
Delaware	.....	....	.....	....
Dist. of Columbia	.....	....	.....	....
Florida	1914-15	1918	1918-19	1922
Georgia	.....	....	.....	....
Idaho	.....	....	.....	....
Illinois	1915-16	1919	.....	....
Indiana	1910-11	1914	1911-12	1915
Iowa	.....	....	1911-12	1915
Kansas	1910-11	1914	.....	....
Kentucky	1914-15	1918	.....	....
Louisiana	1915-16	1919	1918-19	1922
Maine	.....	....	.....	....
Maryland	1914-15	1918	1918-19	1922
Massachusetts	.....	....	.....	....
Michigan	1914-15	1918	1918-19	1922
Minnesota	.....	....	1908-09	1912
Mississippi	1915-16	1919	1919-20	1923
Missouri	.....	....	.....	....
Montana	1914-15	1918	1918-19	1922
Nebraska	.....	....	.....	....
Nevada	.....	....	.....	....
New Hampshire	1914-15	1918	1915-16	1919
New Jersey	1915-16	1919	1916-17	1920
New Mexico	1914-15	1918	1918-19	1922
New York	1917-18	1921	1918-19	1922
North Carolina	1914-15	1918	1918-19	1922
North Dakota	.....	....	1908-09	1912
Ohio	.....	....	.....	....
Oklahoma	1914-15	1918	1917-18	1921
Oregon	.....	....	.....	....
Pennsylvania	1914-15	1918	.....	....
Rhode Island	1914-15	1918	1918-19	1922
South Carolina	.....	....	1916-17	1920
South Dakota	1908-09	1912	1911-12	1915
Tennessee	1916-17	1920	1918-19	1922
Texas	1914-15	1918	.....	....
Utah	1913-14	1917	.....	....
Vermont	1913-14	1917	1918-19	1922
Virginia	1914-15	1918	1917-18	1921
Washington	1914-15	1918	1918-19	1922
West Virginia	1917-18	1921	.....	....
Wisconsin	.....	....	1915-16	1919
Wyoming	.....	....	.....	....

greater than for medical schools generally. Now they not only lack this outside financial aid, but also their income from students' fees has been considerably reduced as a result of the general adoption of higher entrance requirements. For these reasons, largely, medical schools for negroes have not been able to keep pace with the rapid improvements made in other medical schools.

There are about eleven million negroes in the United States and only four negro medical schools. One of these is in Class A; two in Class B and one in Class C. The Howard University School of Medicine at Washington receives only about $5,000 each year—not nearly sufficient to meet its needs—from the United States government, and has access to the large Freedmen's Hospital which is financed by the government. The Meharry Medical College at Nashville in recent years has received a few thousands from private donations and a larger sum to build a small teaching hospital. It is much in need of funds for its further development and maintenance. Still smaller sums have been received by Leonard Medical School, the medical department of Shaw University, which gives only the first two years of the medical course. A few years ago this school discontinued the clinical courses so as to concentrate its efforts on improving the laboratory portion of the school. To show the need of these medical schools it should be stated that, at the lowest estimate, no college can properly teach modern medicine without an income of at least $25,000, in addition to students' fees. This figure should be doubled, if the college is to be even moderately well conducted. These funds are needed to provide more salaried, full-time teachers, more laboratories, more equipment, and to provide for better administration. Furthermore, in the coming requirement of an internship in a hospital as a requisite for the license, increased provision for internships will need to be made for such graduates. This means more hospitals for negroes. Although most of the northern white schools accept negro medical students into their classes, it is difficult to provide them with internships in suitable hospitals. These problems in connection with negro medical education are worthy of careful consideration. No better object could be found for generous donations at the present time than medical schools for the colored race.

Progress in Medical Licensure

Since 1904, the Council has had, as one of its regular functions, the collection and tabulation of statistics which are published in the State Board Number of the *Journal* in April of each year. These statistics have had a large influence in the improvement of both medical education and medical licensure. Four tables published this year are of particular importance and are reproduced in this report. Table 1 has been published with the statistics for each of the last five years and its influence on medical education has been profound. It is based on reports signed by officials of the various boards and shows in what states the diplomas granted by various medical colleges are not recognized as an acceptable qualification for

TABLE 4.—ADVANCES IN STATE LICENSE REQUIREMENTS IN FOURTEEN YEARS

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	1904	1918	Increase	
Preliminary Education—				
Any provision for	21	46	25	4[1]
Any standard fixed	18	44	26	6[2]
A standard four-year high school education or higher	7	44	37	6[2]
One year or more of college work	0	38[3]	38	11
Two years of college work as a minimum	0	30[3]	30	19
That all applicants be graduates of a medical college	36	49	13	0
That all applicants undergo an examination for license	45	48	3	1[4]
Requirements of practical and clinical tests in the license examinations	1	5[5]	4	43
Hospital intern year required	0	7[6]	7	42
Full authority by board to refuse recognition to low-grade colleges	14	43	29	6[7]
Boards refusing to recognize low-grade colleges*	5	37	32	11[8]
Reciprocal relations with other states	27	41	14	8[9]
Single boards of medical examiners	36	42	6	7[10]

* In three states, Arkansas, Connecticut and Florida, each of which has three separate boards, only the regular (nonsectarian) boards have refused recognition to low standard medical colleges.

1. District of Columbia, Massachusetts, Oregon and Wyoming.
2. Idaho, Nevada and the states named in Footnote 1.
3. See Table 3.
4. New Mexico.
5. The states in which the boards are regularly using practical laboratory and clinical tests in their examinations are Illinois, Minnesota, North Dakota, Ohio and South Dakota. A few other states use practical tests to a greater or less extent but not as extensively or invariably as in the five states named.
6. Pennsylvania, 1914; New Jersey, 1916; Alaska, 1917; North Dakota and Rhode Island, 1918; Illinois, 1921, and Michigan, 1922.
7. District of Columbia, Idaho, Massachusetts, Oregon, Utah and Wyoming.
8. Arizona, California, Nevada, Tennessee, Washington and the states named in Footnote 7.
9. Arizona, Connecticut, Florida, Massachusetts, Montana, Oregon, Rhode Island and Washington. To this list should be added the outlying territories of Alaska, Canal Zone, Philippine Islands and Porto Rico, which have no provision for reciprocity.
10. Multiple boards still remain in Arkansas, Connecticut, Delaware, District of Columbia, Florida, Louisiana and Maryland.

the license. This table has been published each year in the State Board Number of the *Journal*, in the annual report to the House of Delegates and in a pamphlet published for and widely circulated among prospective medical students. Prior to the publication of this table medical students had no way of ascertaining whether or not the diplomas of the colleges they were attending would enable them to secure licenses.

Students have actually attended certain colleges for four years, graduated and applied for licenses before they learned that the colleges were not recognized in adjoining states. Besides being a guide for the prospective medical student, this table shows what boards are safeguarding the people of their states against the incompetent graduates of low standard medical colleges. Based as it is on strictly official information this table last year was used by the Surgeon-General in establishing a list of "well-recognized" colleges. Unless a college is recognized by the majority of state licensing boards it is not considered as "well-recognized," and its students who are drafted are not permitted to enter the "enlisted reserve corps."

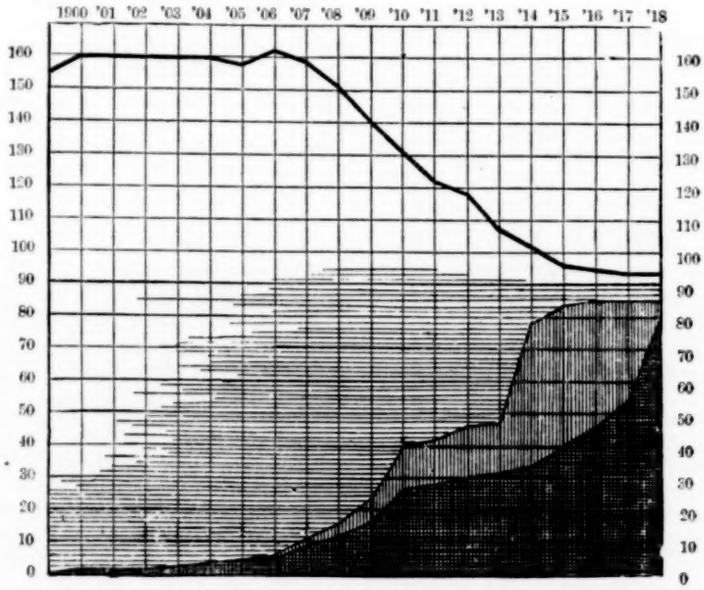
Table 2 shows the classification of the colleges of each physician licensed by examination and reciprocity during 1917. Graduates of medical schools which ceased to exist or which merged with other schools prior to 1907 are included among miscellaneous candidates. Of the physicians licensed by reciprocity, all physicians who graduated prior to 1907, when the Council's first classification was prepared, are included in miscellaneous. Members of the House of Delegates can see just how many of the physicians licensed in their respective states during 1917 were graduates, respectively, of Class A, B and C medical schools, and whether the people of those states are being adequately protected against the output of low grade colleges.

Table 3 shows that at present thirty-eight states require one or two years of collegiate work as a minimum standard of preliminary education and that, of this number, thirty require *two years* of such college work. The twelve states which have not adopted the higher standard are: District of Columbia, Massachusetts and Wyoming, in which as yet no standard has been fixed; Idaho and Oregon, in which the standard is less than a four-year high school education; and Delaware, Georgia, Maine, Missouri, Nebraska, Nevada and Ohio, in which a four-year high school education is the minimum requirement.

Various improvements brought about in medical licensure during the last fourteen years are set forth in Table 4. Next to the improvements in the standards of preliminary education the greatest increase (32) is in the number of states (now 37) which are refusing to recognize low grade colleges. The greatest needs at present are a wider adoption of the requirement of the hospital intern year; a general adoption of the standard of two years of premedical college work, and—a matter of extreme importance—a more general and larger use of practical laboratory and clinical tests in the state licensing examinations. Such tests to a fairly satisfactory extent are now being used in Illinois, Minnesota, North Dakota, South Dakota and Ohio and to a lesser extent in a few other states. An excellent example of how these examinations could be conducted is now being furnished frequently by the National Board of Medical Examiners.

CHART 1.—MEDICAL SCHOOLS AND ENTRANCE REQUIREMENTS

This chart shows (heavy line at the top) the total numbers of medical schools existing in the various years. The chart also shows the numbers of medical schools requiring for admission (horizontal shading, indefinite, estimated) a four-year high school education; (vertical shading) one year of premedical college work and (heavy shading) two years of premedical college work.



	1900	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
Totals	160	160	160	160	160	158	162	139	151	140	131	132	118	107	106	96	95	94	94
Totals (a)	158	158	158	157	156	153	156	148	135	116	91	80	72	60	24	12	10	9	9
Totals (b)	..	..	..	..	..	..	1	2	5	8	13	14	16	16	44	44	38	31	6
Totals (c)	2	2	2	3	4	5	5	9	11	16	27	28	30	31	34	40	47	54	79

Requiring for admission (*a*) a high school education *or less;* (*b*) one year of college work; (*c*) two or more years of college work.

Reference has just been made (see Table 3) to the adoption by state licensing boards of higher requirements of preliminary education. Progress in this particular since 1900 is shown in the accompanying Chart 2. This chart shows just how many states in each year had adopted, respectively, a four-year high school education or higher standards of preliminary education. In 1900, only six states had made provision for preliminary education in their practice acts and in only one of these was the standard fixed at a four-year high school education or its equivalent. Since 1900, wide publicity has been given to the serious conditions in medical education and progress since that time has been rapid. In 1904, the Council on Medical Education advocated two standards of medical education, one for immediate adoption which recommended a four-year high school course as the minimum entrance requirement and another—the "ideal standard"—which advocated one year of college work including courses in physics, chemistry and biology. Colleges and state boards were urged to adopt the latter standard by Jan. 1, 1908, but the time was extended till Jan. 1, 1910. By 1910 the number of states providing for preliminary education had increased to thirty-six, in twenty-eight of which a four-year high school course was required. The light and heavy dotted lines indicate the number of boards each successive year beginning in 1912, which have *adopted*, respectively, one or two years of collegiate work in addition to a four-year high school education as the minimum preliminary qualification for the license in those states. Note that the marked increase occurred in 1914 for the adoption of one year of college work and in 1918 for the two year requirement. These are the years when, respectively, one year and two years of college work were made an essential requirement for admission to Class A medical schools. The increases in the numbers of states adopting the higher preliminary standards as indicated by the dotted lines correspond quite closely also with the increases in the numbers of medical colleges which adopted those standards (see Chart 1). The dotted lines show when the requirements affected students *matriculating* in medical colleges. Those requirements did not become effective for all *graduates* until four years later; hence the portions of the chart shown by the vertical and the heavy shading indicate for each year the numbers of states in which, respectively, one year and two years of college work were required of all graduates seeking licenses to practice in those states.

National Board of Medical Examiners

The National Board of Medical Examiners was organized in 1915 and sought the endorsement of the House of Delegates. That matter was referred to the Council on Medical Education for special investigation which was made during the fall of 1915. Further information was brought out in a series of papers read at a joint conference of the Council and

the Federation of State Medical Boards in February, 1916. It was found that the personnel of the board consisted of men of high qualifications and that the methods being followed were such as would uphold the standards of education established by the Council and which had been adopted by many of the state licensing boards of the country. On recommendation of the Council, therefore, the National Board of Medical Examiners was endorsed by this body in June, 1916. The personnel of the board at present is as follows: Rear Admiral William C. Braisted, Surgeon-General, United States Navy; Surg.-Gen. William C. Gorgas, United States Army; Surg.-Gen. Rupert Blue, United States Public Health Service; Capt. Edward R. Stitt, Col. Louis A. LaGarde, Assistant Surg.-Gen. William C. Rucker, Dr. Victor C. Vaughan, Dr. Horace D. Arnold, Dr. Austin Flint, Dr. Walter L. Bierring, Dr. Henry Sewell, Dr. E. Wyllys Andrews, Dr. Louis B. Wilson, Dr. Herbert Harlan, and Dr. Isadore Dyer.

Funds to meet the expenses of the board have been provided by the Carnegie Foundation for the Advancement of Teaching, which has given $15,000 per year for that purpose, for an indefinite number of years. This generosity has enabled the board to get its work well started without having to charge examination fees. The only fee for each candidate is $5 for registration.

Recognition of the National Board has already been granted by eleven states and holders of its certificates will be registered without further examination in Colorado, Delaware, Idaho, Kentucky, Maryland, New Hampshire, North Carolina, North Dakota, Pennsylvania, Rhode Island and Vermont. When the permanency of the Board is established and the high character of its examinations is more generally recognized, it is quite probable that its certificate will be recognized by the licensing boards of a larger number, if not of all, states.

The board has held six examinations, the first two in Washington, D. C., held respectively, in October, 1916, and June, 1917; third in Chicago in October, 1917, and the fourth in New York in January, 1918. At these examinations altogether 70 physicians were examined, of whom 54 passed and 16, or 23 per cent., failed. The figures for each of the four examinations are shown in the following table:

Date of Examination	Where Held	Total Examined	Passed	Failed	Percentage Failed
October, 1916	Washington	10	5	5	50.0
June, 1917	Washington	12	9	3	33.3
October, 1917	Chicago	28	22	6	21.5
January, 1918	New York	20	18	2	10.0
Totals		70	54	16	23.0

Two other examinations were held in April at Forts Oglethorpe and Riley, but the final grades have not been received.

Education Preliminary to the Study of Medicine

At the annual meeting of the American Medical Association, held in June, 1916, the House of Delegates adopted the recommendation of the Reference Committee on medical education, instructing the Council to not retain in Class A after January 1, 1918, any medical school that was not requiring for admission at least two years of work in a college of arts and sciences approved by the Council or in lieu thereof an equivalent education as demonstrated by the properly conducted examination approved by the Council. The recommendation further stated that two years of college work represented "the highest requirement of preliminary education that should be legally established in this country."

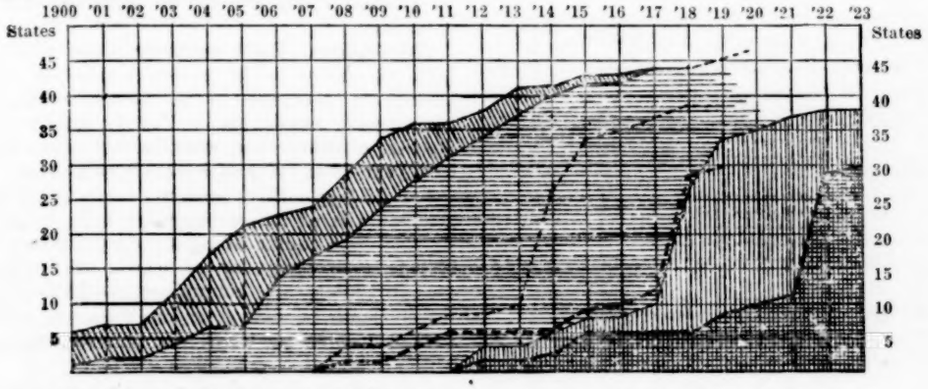
In February, 1917, a special committee was appointed by the Council to study the problem, to suggest a subject content of the two-year premedical college course, and to develop a schedule of the subjects which would best prepare the student for his subsequent medical studies.

CHART 2.—STATE REQUIREMENTS OF PRELIMINARY EDUCATION

As shown by Medical Practice Acts and Board Rules

Showing by years the increased number of states requiring (diagonal shading) any preliminary requirement (horizontal shading); a four-year high school education (vertical shading); one year of college work, and (heavy shading) two years of college work.

The light and heavy dotted lines in the horizontal shading indicate, respectively, when the one-year and the two-year requirements were *adopted*—when they began to affect *matriculants* in medical schools. The requirements did not affect *graduates* until four years later, as indicated by the vertical and heavy shading. Each vertical line represents a year as indicated. (Compare this chart with Chart 1.)



	1900	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23
Any req't....	6	7	7	12	18	21	23	24	29	34	36	36	38	41	42	43	43	44	44	?	?	?	?	?
Less than h.s	5	5	5	8	11	14	9	7	10	10	8	5	4	4	2	1	1	..	..	..	..	..	..	..
4 yr. h.s.....	1	2	2	4	7	7	14	17	19	24	28	31	30	33	34	34	34	34	18	..	..	..	..	..
1 yr. coll....	..	..	..	..	..	..	..	..	..	..	..	..	2	2	3	2	2	4	20	25	25	25	9	8
2 yrs. coll...	..	..	..	..	..	..	..	..	..	..	..	..	2	2	3	6	6	6	6	9	10	12	29	30

The committee was made up as follows:

Dr. Kendric C. Babcock, Urbana, Ill., chairman, formerly specialist in higher education of the United States Bureau of Education; now dean of the College of Liberal Arts and Sciences of the University of Illinois and intimately identified with the work of the North Central Association of Colleges and Secondary Schools and the Association of American Universities in standardizing colleges of arts and sciences.

Prof. George Gailey Chambers, director of admissions, University of Pennsylvania, Philadelphia, representing the Association of American Universities.

Dr. W. F. R. Phillips, professor of anatomy of the Medical College of the State of South Carolina, Charleston, representing the Association of American Medical Colleges.

Dr. Theodore Hough, dean of the University of Virginia Department of Medicine, Charlottesville.

Dr. N. P. Colwell, secretary of the Council on Medical Education of the American Medical Association, Chicago.

Although of great importance to medical education, this was a matter which chiefly concerned academic colleges and universities; and for that reason, associations of such colleges were ably represented on the committee. Presidents and deans of such colleges were generally and freely consulted in the study of the problem. A preliminary report of the committee was published in *The Journal* of Aug. 18, 1917.

Following the discussions at the annual conferences of the Council on Medical Education and the Association of American Colleges in Chicago in February, 1918, the committee met and completed its report, which, as finally adopted, is as follows:

I. HIGH SCHOOL REQUIREMENTS

(*a*) For admission to the two-year premedical college course, students shall have completed a four-year course of at least fourteen units (fifteen after Jan. 1, 1920) in a standard accredited high school or other institution of standard secondary school grade, or have the equivalent as demonstrated by examinations conducted by the College Entrance Examination Board, or by the authorized examiner of a standard college or university which has been approved by the Council on Medical Education. Unless all the entrance units are obtained by examination, a detailed statement of attendance at the secondary school, and a transcript of the student's work, should be kept on file by the college authorities. This evidence of actual attendance at the secondary schools should be obtained, no matter whether the student is admitted to the freshman or to higher classes.

(*b*) Credits for admission to the premedical college course may be granted for the subjects shown in the following list and for any other subject counted by a standard accredited high school as a part of the requirements for its diploma, provided that at least eleven units must be offered in Groups I-V:

SCHEDULE OF SUBJECTS REQUIRED OR ACCEPTED FOR ENTRANCE TO THE PREMEDICAL COLLEGE COURSE

Subjects	Units*	Required
GROUP I, ENGLISH—		
Literature and composition	3-4	3
GROUP II, FOREIGN LANGUAGES—		
Latin	1-4	2†
Greek	1-3	
French or German	1-4	
Other foreign languages	1-4	
GROUP III, MATHEMATICS—		
Elementary algebra	1	1
Advanced algebra	½-1	..
Plane geometry	1	1
Solid geometry	½	..
Trigonometry	½	..
GROUP IV, HISTORY—		
Ancient history	½-1	1
Medieval and modern history	½-1	
English history	½-1	
American history	½-1	
Civil government	½-1	
GROUP V, SCIENCE—		
Botany	½-1	..
Zoology	½-1	..
Chemistry	1	..
Physics	1	..
Physiography	½-1	..
Physiology	½-1	..
Astronomy	½	..
Geology	½-1	..
GROUP VI, MISCELLANEOUS—		
Agriculture	1-2	..
Bookkeeping	½-1	..
Business law	½	..
Commercial geography	½-1	..
Domestic science	1-2	..
Drawing, freehand and mechanical	½-2	..
Economics and economic history	½-1	..
Manual Training	1-2	..
Music: Appreciation or harmony	1-2	..

* A unit is the credit value of at least thirty-six weeks' work of four or five recitation periods per week, each recitation period to be not less than forty minutes. In other words, a unit represents a year's study in any subject in a secondary school constituting approximately a quarter of a full year's work. A satisfactory year's work in any subject cannot be accomplished under ordinary circumstances in less than 120 sixty-minute hours, or their equivalent.

† Both of the required units of foreign language must be of the same language, but the two units may be presented in any one of the languages specified.

Of the fourteen units of high school work (fifteen after Jan. 1, 1920), eight units are required, as indicated in the foregoing schedule; the balance may be made up from any of the other subjects in the schedule.

II. PREMEDICAL COLLEGE COURSE

(*c*) Beginning Jan. 1, 1918, the minimum requirement for admission to acceptable medical schools, in addition to the high school work specified above, will be sixty semester hours of collegiate work, extending through two years, of thirty-two weeks each, exclusive of holidays, in a college approved by the Council on Medical Education. The subjects included in the two years of college work should be in accordance with the following schedule:

SCHEDULE OF SUBJECTS OF THE TWO-YEAR PREMEDICAL COLLEGE COURSE

Sixty Semester Hours* Required

	Semester Hours
Required Subjects:	
Chemistry (a)	12
Physics (b)	8
Biology (c)	8
English composition and literature (d)	6
Other nonscience subjects (e)	12
Subjects Strongly Urged:	
French or German (f)	6-12
Advanced botany or advanced zoology	3-6
Psychology	3-6
Advanced mathematics including algebra and trigonometry	3-6
Additional courses in chemistry	3-6
Other Suggested Electives:	
English (additional), economics, history, sociology, political science, logic, mathematics, Latin, Greek, drawing.	

* A semester hour is the credit value of sixteen weeks' work consisting of one lecture or recitation period per week, each period to be not less than fifty minutes net, at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

SUGGESTIONS REGARDING INDIVIDUAL SUBJECTS

(*a*) *Chemistry.*—Twelve semester hours required (eight until Jan. 1, 1919) of which at least eight semester hours must be in general inorganic chemistry, including four semester hours of laboratory work. In the interpretation of this rule work in qualitative analysis may be counted as general inorganic chemistry. The remaining four semester hours (required after Jan. 1, 1919) may consist of additional work in general chemistry or of work in analytic or organic chemistry.

(*b*) *Physics.*—Eight semester hours required, of which at least two must be laboratory work. It is urged that this course be preceded by a course in trigonometry. This requirement may be satisfied by six semester hours of college physics, of which two must be laboratory work, if preceded by a year (one unit) of high school physics.

(*c*) *Biology.*—Eight semester hours required, of which four must consist of laboratory work. This requirement may be satisfied by a course of eight semester hours in either general biology or zoology, or by courses of four semester hours each in zoology and botany, but not by botany alone.

(*d*) *English Composition and Literature.*—The usual introductory college course of six semester hours, or its equivalent is required.

(*e*) *Nonscience Subjects.*—Of the sixty semester hours required as the measurement of two years of college work, at least eighteen, including the six semester hours of English, should be in subjects other than the physical, chemical or biologic sciences.

(*f*) *French or German.*—A reading knowledge of one of these languages is strongly urged. If the reading knowledge in one of these languages is obtained on the basis of high school work, the student is urged to take the other language in his college course. It is not considered advisable, however, to spend more than twelve of the required sixty semester hours on foreign languages. In case a reading knowledge of one language is obtained by six semester hours of college work, another six semester hours may be well spent in taking the beginner's course in the other language; if this is followed up by a systematic reading of scientific prose, a reading knowledge of the second language may be readily acquired. When a student spends more than two years in college he may well spend twelve semester hours of his college work in the second language.

REVISION OF THE COUNCIL'S CLASSIFICATION OF MEDICAL COLLEGES

The reorganization of medical education has now advanced to the point where another general classification of medical schools is essential and should be made as soon as circumstances will permit. This reclassification has been considered repeatedly by the Council during the last three years, but each time for good reasons definite action was postponed. Aside from the necessity of this revision on general grounds, it is now of special importance in connection with the recog-

nition of medical schools by the federal service under the regulations of the selective service law. Since the effect of these regulations will be the closure of such institutions as are not considered "well-recognized" because of the drafting of their students, if the war continues any length of time, it is particularly important that the Council's classification shall be made in strict justice and that it be based on the actual conditions now existing in the schools.

At its February meeting, the Council voted to submit to the House of Delegates, for its approval, a slightly modified basis for the classification of medical schools and asked for authority to proceed with the general reclassification on the new basis. The revised schedule for the grading of medical schools is as follows:

New Schedule for the Grading of Medical Schools

Schools will be rated as heretofore on a civil service basis on a scale of 1,000 points. The data relating to each school will be grouped under ten general heads in such manner that the groups will have as nearly equal weight as possible, each group allowing a possible 100 points (10 per cent.) out of a possible 1,000 points (100 per cent.). The revised schedule showing the general heads under which the data will hereafter be arranged are as follows:

1. Character of curriculum, grading of course, sequence of subjects, supervision, administration, etc.
2. Medical school buildings; adaptability, light, heat, ventilation, cleanliness, etc.
3. Laboratory facilities and instruction.
4. Dispensary facilities and instruction.
5. Hospital facilities and instruction in medicine, surgery, obstetrics, and gynecology.
6. Hospital facilities for instruction in medical specialties and provision for clinical clerkships, necropsies, etc.
7. Full-time instructors and assistants with special reference to their special qualifications and evidences of their work, including research.
8. Faculty, number, qualifications and organization of, including the staff of teaching hospitals.
9. Library, museum, charts and special apparatus and evidences of the use made of them.
10. Showing of graduates at state board and other examinations and other evidences by which the training received is indicated.

It will be noted that the question of financial income is not directly referred to in the ten heads outlined. It is quite evident, however, that no college can secure an adequate number of expert full-time teachers, provide well equipped laboratories, library and museum, and be conducted in accordance with present-day medical knowledge without a liberal income in addition to students' fees.

Class A Colleges will, as heretofore, be those which are acceptable; Class B, those which, under their present organization, give promise of being made acceptable by general improvements, and Class C those which (*a*) require a complete reorganization to make them acceptable; (*b*) which do not keep satisfactory records of their students in regard to entrance requirements, attendance, grades in courses, division into classes and reasons for promotion; (*c*) which do not enforce their requirements in regard to admission (including those admitted to advanced standing), promotion and graduation; (*d*) which give the major portion of their instruction after 4 o'clock in the afternoon; (*e*) which are privately owned and conducted for profit, and (*f*) which for other specific reasons are not eligible for inclusion in Class B.

Continuous Sessions in Medical Schools

At the conference held in February, the chairman of the Council who is a member of the Surgeon-General's staff at Washington, presented a scheme for a continuous session in medical schools. The scheme outlined, suggested that for the duration of the war, each year be divided into three periods, of four months each, these sessions beginning in October, February and July of each year. It was shown that the student could enter on the study of medicine at the beginning of any one of these periods and continue for eight successive periods of four months each, at which time he would graduate and enter on an intern service of one calendar year. This would require just four calendar years when he would be ready for active service with the Army. It was argued that by the adoption of this or some similar scheme the summer periods heretofore looked on as vacation time would be utilized; the extensive teaching plants would be kept in continuous operation, and students would be graduated from nine to twelve months earlier than under the methods heretofore prevailing. Under this scheme the present junior class would be graduated four months earlier; the present sophomore class would be graduated eight months earlier, and the present freshman class would be graduated a year earlier than under the former method. It was argued also that since there would be no vacations for the boys in the trenches, or for the medical officers in the service, there appeared to be no reason why those remaining at home in the enlisted reserve corps, or on the teaching staffs should not utilize the summer months to good advantage. The Council, however, is not unanimously in favor of the continuous session, since one member believes that the speed of production gained would not compensate for the loss of the thoroughness in teaching and the drain on the students health. It is stated that at McGill and Toronto Universities in Canada the system has been abandoned excepting for the last year students.

Present Scope of the Council's Work

During the fourteen years since the Council on Medical Education was established its work has developed and broadened under the direction of the secretary of the Council:

(*a*) Statistics are collected each year regarding the successes and failures of physicians at examinations conducted by state medical licensing boards. This material is tabulated and published in April each year in the State Board Number of THE JOURNAL.

(*b*) Statistics are collected each year in regard to medical colleges, students and graduates in the United States and Canada. These statistics are tabulated and published in August each year in the Educational Number of THE JOURNAL. Information also in regard to foreign medical colleges is being regularly obtained and kept on file.

(*c*) During the last five years the secretary of the Council has also had supervision of the American Medical Directory. This is a logical arrangement since so much of the data going into it is regularly obtained by the Council.

(*d*) The biographical index of physicians of the United States, which was begun with the publication of the American Medical Directory, is now under the direction of the secretary of the Council. Official information in regard to the graduation and licensing of each physician, which is regularly obtained, enables the Council to keep the biographical index of physicians up to date. This file now contains cards for 152,000 physicians of the United States and Canada.

(*e*) Since 1910 a register of medical students has been kept by the Council. This consists of an index showing full data regarding medical students from the time they enter the medical school. When the student has graduated, has obtained a license and has secured a location, his card is transferred to the biographical index of physicians. The information in this file is such that, should the records in any of the colleges be destroyed by fire or otherwise, the Council could replace the essential data regarding the students.

(*f*) The "Personal File" of information regarding physicians has thus far been kept up by various departments of the Association, but has always been an important adjunct to the biographic index of physicians. Recently, through the urging of the Federation of State Medical Boards, arrangements have been made to enlarge this file, so as to make the Council's headquarters a central bureau of information, especially in regard to illegal practitioners of medicine.

(*g*) The Council keeps in touch with all state licensing boards, noting changes in the personnel of those boards and in the requirements regulating the practice of medicine in the various states, particularly in regard to the educational

standards enforced. At certain intervals information regarding the requirements to practice medicine in foreign countries is also obtained, through the American ambassadors or consuls in those countries. On the basis of this information a book of "Laws (Abstract) and Board Rulings Regulating the Practice of Medicine in the United States and Elsewhere" is compiled by the Council and published each year.

(*h*) Three tours of inspection of all the medical colleges in the United States have been completed, and of certain medical colleges six or more inspections have been made. Of the medical schools of Canada, two tours of inspection have been made. The classification of medical schools is published at frequent intervals in *The Journal of the American Medical Association* and in pamphlets. It is revised each year in accordance with changes made in the ratings of individual colleges.

(*i*) The Council conducts an annual conference on medical education and licensure. The conference has grown until it has drawn to it the annual meetings of other educational agencies, resulting in what might be termed an annual congress on medical education and licensure. This congress is now participated in by the Council, the Association of American Medical Colleges and the Federation of State Medical Boards of the United States. Other educational bodies are also holding meetings during the time of the conference. This annual conference has been the "open forum" where educational standards and other problems relating to medical education have been brought up for discussion. These conferences have resulted in securing united action by the various agencies interested in medical education, which accounts partly for the rapid progress since the Council was organized.

(*j*) From the beginning of this work the Council has carried on a campaign for higher standards of preliminary education, not only with medical colleges but also with state licensing boards.

(*k*) Since 1913, of the annual reports of the United States Bureau of Education, the chapter on medical education has, on request, been furnished by the secretary of the Council.

(*l*) The improvements resulting from the Council's work, through its conferences, its classifications of colleges and its campaign for standards of education, has made the Council an important factor in the standardization of high schools, and, more recently, of colleges of arts and sciences. Several years ago an effort was made to ascertain whether an education in an approved four-year high school was actually being required for admission by medical schools. More recently, under the increased entrance standard, it became equally essential to ascertain whether the medical school was actually requiring two years of work in an approved college of arts and sciences. In 1912 the secretary of the Council collected the material for the preparation of a list of approved high schools, the list to include only those high schools which were accredited by the various state universities. It was found unnecessary to continue that work, however, since Dr. Kendric C. Babcock, then specialist in higher education of the United States Bureau of Education, consented to take it up. During the last two years the Council has compiled a list of approved colleges of arts and sciences, basing that approval on the list of colleges approved by standardizing agencies in whose methods the Council has confidence. This list by the Council may also be unnecessary at a later time when the Bureau of Education or other agencies shall be in position to compile such a list and keep it up to date.

(*m*) At the beginning of its work the Council published two standards, one for immediate adoption by the medical schools and state boards. The first was for immediate adoption and advocated a four-year high school education, a four-year medical course, and an examination for the license to practice. The second, then termed the "ideal" standard, advocated a year of preliminary collegiate preparation, including courses in physics, chemistry and biology, a four-year medical course and a year's internship in a hospital, preceding the examination for the license. This ideal standard has been exceeded in the matter of preliminary requirements, since two years of college work, instead of one, has proved to be the most satisfactory arrangement in this country. There remains the general adoption of the hospital intern year to entirely fulfill the requirements of the ideal standard suggested by the Council in 1905. Special effort in this direction is now being made. In 1914 a list of hospitals considered in position to furnish acceptable internships was prepared and published. During 1915 this list was carefully reviewed by state advisory committees and in 1916 a revised edition was published. At the annual meeting in 1917 the House of Delegates adopted the recommendation of the Reference Committee on Medical Education that $2,500 a year for three years be appropriated to further the work of investigating and standardizing hospitals. This increased appropriation has been granted by the board of trustees. The work will be advanced, therefore, definite standards will be fixed and a limited amount of hospital inspection will be done. In this work, the Council will cooperate with medical colleges, state licensing boards and other interested agencies.

(*n*) The Council has naturally kept itself fully informed regarding the various medical cults and has been in position to furnish reliable information in regard to them where such information was needed. Most of the cult schools have been inspected and first hand information regarding them is available, especially in regard to some of them which during the last year or so have received the legal right to grant M.D. degrees. On account of (*a*) the lack of, or exceedingly low entrance requirements; (*b*) the lack of teachers who have had a complete medical training; (*c*) the failure to study and recognize the various factors entering into the causation of diseases; (*d*) the resulting failure to ascertain the effective therapeutic measures which might be used, and (*e*) the lack of adequate laboratories, laboratory equipment, hospitals and clinical material—on account of all these deficiencies, no cult college could be considered as equal to the average medical college rated in Class C. The chief objection to the medical cult colleges has not been to the medical cults *per se*, but to their lack of, or seriously low educational standards.

(*o*) The headquarters of the Council have, in fact, become a clearing house of information in regard to medical education, medical licensure, medical cults and other matters pertaining to these subjects. The Council has at its headquarters information which cannot be obtained in any other place. The use which state boards and others are making of this information has grown tremendously, as indicated by the voluminous correspondence that comes regularly to the headquarters of the Council. A tremendous amount of information goes also to prospective medical students and the demand for the pamphlet entitled "Making the Right Start," which was prepared especially for prospective medical students, has been constantly increasing. The volume of correspondence required to answer inquiries is already large and is steadily increasing. Much of the information is now regularly published in the *Monthly Bulletin* of the Federation of State Medical Boards, which goes to all members of all state boards.

THE COUNCIL'S PERMANENT FILES

The files of data at the headquarters of the Council are as follows:

(*a*) Announcements of medical schools of the United States: These files are being kept up to date and so far as possible back numbers of the announcements of schools have been obtained. Catalogues of many of the foreign medical schools are also on file.

(*b*) Lists of medical graduates: This file consists of alumni lists, either in printed or card index form, which are complete for all schools existing as well as for the majority of schools which have become extinct. For the extinct schools our information is occasionally being added to and our files are gradually becoming more complete.

(*c*) Information in regard to foreign medical colleges, foreign graduates and the legal requirements for practice abroad.

(*d*) Biographical index of physicians of the United States and Canada. Every card shows the personal and educational history of each physician. Official data regarding the medical graduation and licensure of each physician is shown.

(*e*) Biographical card index of medical students enrolled in the medical colleges of the United States and Canada. Reports are received each year which keep this index up to date.

(*f*) Data obtained from the inspections of all medical colleges.

(*g*) Miscellaneous pamphlets bearing on medical education.

(*h*) Catalogues and other information in regard to medical cults. Much information has been obtained by actual inspection.

The Council's Work and the War

As already stated, by the time this country entered the world war the reforms among medical colleges had made sufficient progress that for several years most of the medical graduates had benefited from the improved conditions in medical schools, such as the higher entrance requirements, the more skilled teachers, the better laboratories and laboratory equipment, the better clinical material and the greatly improved methods of medical teaching. It is the graduates of the last several years also, who, in largest proportions, have entered the government medical services. But the Council and the information it has collected have rendered other important services to the government, which are briefly enumerated as follows:

(*a*) When the selective service law was enacted, it made no provision for the exemption of medical students. In the Medical Students' Register, the Council had the home addresses of the majority of the students enrolled during 1916-1917, and was able by direct correspondence to secure reliable information showing the proportion of students who would be taken by the draft. The data collected had much to do with the provision made later whereby drafted students were permitted to enter the enlisted reserve corps and to remain in the medical colleges until they should complete their medical training.

(*b*) Only such students were eligible for admission to the enlisted reserve corps as were enrolled in "well-recognized" medical colleges, which were defined as those recognized by the majority of state medical licensing boards. The only information immediately available by which it could be decided which colleges were so recognized, was Table D published last year in State Board Statistics (similar to Table 1 in this report) and which was based on reports signed by the various state board officers.

(*c*) The Council's files of information in regard to medical colleges were also placed at the disposal of the Surgeon-General, and the secretary of the Council has cooperated in inspecting and furnishing reports to the Surgeon-General regarding a number of medical schools.

(*d*) The biographical information in the files at the Council's headquarters has been used for the Surgeon-General in checking the qualifications of applicants for the medical reserve corps before commissions were granted. That information has also made possible the compilation and publication of the Honor Roll of Physicians in the campaign for the enlistment of additional medical officers.

(*e*) The Council's files of information in regard to standards of preliminary and medical education have likewise been utilized by the Surgeon-General's Office. This information included, also, a list of the approved colleges of arts and sciences and a list of hospitals considered in position to furnish acceptable internships, both of which lists were compiled by the Council.

In Conclusion

The above outline of the Council's work shows the character of the information gathered and the great service it has rendered to the public, to the medical profession, and, more recently, to the government. Some idea, also, can be formed of the influence which, through its Council on Medical Education, the American Medical Association is wielding in the educational world. Through the work of the Council the medical profession is being recreated by shutting off the supply from low grade colleges and increasing the output of high grade, well equipped colleges. Under the increased standards of preliminary education and the highly improved methods of teaching, the entire medical profession will be on a much higher plane of education, culture, training and technical skill than has ever before been true. This will place so wide a zone between the qualifications of physicians and those of followers of the various cults, that all laymen of average intelligence will be able to note the difference. Of more importance, however, because of this successful campaign for an improved medical education, the average physician will be able to render a far better service to the public and to the soldiers and sailors who are fighting with our allies in the world war.

Respectfully submitted.

Council on Medical Education,

H. D. Arnold, Chairman	William Pepper
R. C. Coffey	Harry Gideon Wells
W. D. Haggard	N. P. Colwell, Secretary

Report of the Council on Scientific Assembly

The report of the Council on Scientific Assembly was received as printed in the Handbook and referred to the Reference Committee on Reports of Officers.

The report is as follows:

To the Members of the House of Delegates of the American Medical Association:

The Council on Scientific Assembly desires to repeat and to emphasize what it said last year with regard to the number of section meetings in the Scientific Assembly. It will be recalled by those members of this house who were seated at the 1915 session, this same opinion was presented in the excellent report of the special committee on Sections and Section Work: that is, that at our annual sessions too many section meetings are held at the same time. There is no question as to this. The annual sessions of the British Medical Association are often compared with our annual sessions to the advantage or disadvantage of the one or the other, according to the point of view. The British Medical Association is charged with devoting too much time to social functions and renewing acquaintances and too little time to scientific work. We are accused—and the Council on Scientific Assembly believes this is a just criticism—of devoting too much time to scientific work and too little to social enjoyment and getting acquainted with each other.

Your Council is of the opinion that a more effective distribution of time will be presented if the Sections are limited to one meeting a day. Those men who are particularly interested in what they regard as their particular section feel it their duty to attend all the morning and afternoon meetings, any one of which is liable to be extended.

It is a strain to attend every meeting of a section.

It is possible to have too much of a good thing.

There is such a bewildering abundance in the program of the Scientific Assembly that the average man is at a loss to know what section to attend and not infrequently finally ends by not attending any. The man who is faithful to one particular section has no opportunity of attending the meetings of other sections. It would be a good thing for the ophthalmologist if he were free in the morning or the afternoon, to attend the laryngological section and it would do him no harm if he attended the Section on Practice of Medicine or the Section on Nervous and Mental Diseases, or some other; nor would it injure the laryngologist to visit the ophthalmological section or any of the others. This applies also to the internist, the surgeon, the obstetrician, the neurologist, the dermatologist, in fact to all physicians. Our Scientific Assembly ought to be so conducted that a man would not think he was neglecting the section in which he has an especial interest when he takes time to keep in touch with what is being done in other sections or to meet other physicians outside the sections.

The present division of the Scientific Assembly has developed gradually as a result of groups of men, engaged in a special line of practice, requesting the formation of separate sections for their specialties. At the present time, certain

individuals and groups cannot get away from the opinion that the sections are independent organizations to which they belong by virtue of "membership" and to which they must give allegiance. They seem not to realize that there is no provision for affiliation with a section other than that a Fellow registering as in attendance at an annual meeting is privileged to "designate the section in which he wishes to be enrolled," and this is for the purpose of voting for section officers. It should be emphasized that the Scientific Assembly of the American Medical Association is an entity and that the sections are merely parts of a whole.

The Council would not be misunderstood. Allegiance to a particular section is desirable. It has been and is an important factor in developing scientific work.

The Council is gratified to note that in addition to the Section on Ophthalmology, which by the standing rules of the section has limited the number of papers admissable to its program for any annual session to twenty-five, the Section on Practice of Medicine took action last year fixing twenty as the maximum number of contributions to be listed on its program.

FRIDAY MEETINGS OF THE SCIENTIFIC ASSEMBLY

The Council desires to lay stress on the importance of the sections arranging attractive programs for the meetings of Friday of the week of the annual session. Prior to the annual session of 1917, it was the custom for the Scientific Assembly to close with the Thursday afternoon meetings, the sections listing their papers in not more than five units or meetings. The first of these meetings was held on Tuesday afternoon. Rarely, one or two sections continued through to Friday morning. Apparently, when the opening meeting of the sections was fixed for Wednesday morning there was a tendency on the part of the sections to make available only the four meetings on Wednesday and Thursday. The Council on Scientific Assembly has endeavored to induce the sections to utilize the two units on Friday for such meetings. It is important that this shall be done in order that the scientific program may be distributed through six units, two each on Wednesday, Thursday and Friday so as to maintain and improve the scientific value of the program and yet permit fewer meetings held simultaneously. With this end in view, the Council on Scientific Assembly has been successful in securing the cooperation between the sections and arranging for a continuation of the program throughout Friday. If the full three days are used for section meetings, it will be very easy to carry out the suggestion that the number of these meetings being held at the same time shall be not more than eight.

MEETINGS OF THE SECTION ON MISCELLANEOUS TOPICS

In accordance with the authority vested in this Council, it has arranged for two series of meetings of the Section on Miscellaneous Topics and has appointed officers for each of these series of meetings. The first series of two meetings under this section is assigned to a discussion of questions relating to the reeducation and reclaiming of the war injured and is being conducted under the chairmanship of Lieut.-Col. Frank Billings, Chicago, who is in charge of this work in the Surgeon-General's Office, with Major James Bordley, Jr., Baltimore, vice chairman, and Major Harry Mock, Chicago, secretary. A second group of meetings of the Section on Miscellaneous Topics is assigned to the discussion of questions pertaining to the execution of the selective service regulations and the Council appointed the following officers for these meetings: Major Hubert Work, Pueblo, Colo., chairman, who is medical aide in Provost Marshal General's Office; Major Reuben Peterson, Ann Arbor, Mich., medical aide to the governor of Michigan, vice chairman, and Major John M. Dodson, Chicago, medical aide to the governor of Illinois, secretary.

Respectfully submitted.

E. S. JUDD, Chairman,

ROGER S. MORRIS, J. SHELTON HORSLEY,
GEORGE H. SIMMONS, ALEXANDER R. CRAIG.

Report of the War Committee of the American Medical Association

The report of the War Committee was presented by the chairman, Dr. Hubert Work, Colorado, and referred to the Reference Committee on Reports of Officers.

The report is as follows:

To the Members of the House of Delegates of the American Medical Association:

The War Committee, constituted by action of the Board of Trustees at its annual meeting held Oct. 19, 1917, and ratified by a postal vote of this House of Delegates, as soon as it was empowered, proceeded to Washington in company with the Editor of THE JOURNAL. On its arrival there, your committee sought and obtained an interview with the Provost Marshal-General and his associates and formally tendered the services of the American Medical Association to that office for such service as the Association could render in the creation of medical advisory boards. The Provost Marshal-General asked the committee to submit a definite working proposition for the formation and supervision of these boards. This the committee did and the general plan was approved by the Provost Marshal-General and afterward adopted.

Your committee then returned to Chicago and arranged a meeting with representatives of the Committee on States Activities, General Medical Board, Advisory Commission, Council of National Defense. At this conference Drs. Edward Martin, Philadelphia; F. F. Simpson, Pittsburgh, and John D. McLean, Philadelphia, announced that they were in position to serve as a committee from this Committee on States Activites to cooperate with the Committee of the American Medical Association and it was agreed that these three, together with the three constituting the American Medical Association committee, should become a joint committee and that it should have authority to name a seventh member. Subsequently, this joint committee met in Washington, D. C., November 1, when the joint committee organized by electing Dr. Edward Martin, Philadelphia, chairman, adding the secretary of the American Medical Association to the committee and selecting him as its secretary.

The joint committee was advised that the Provost Marshal-General desired immediately to have suggested to him for each state the name of a member of, or of a physician who would accept a commission in the Medical Reserve Corps, in order that a request might be made to have these medical officers ordered to active duty as medical aides to the governors of the states in the erection of the medical advisory boards. The joint committee thereupon proceeded to select a physician in each state to be recommended for this duty. On November 16, the joint committee reconvened in Washington at which time the members representing the American Medical Association were advised by Dr. McLean, Secretary of the Committee on States Activities, Medical Section, Council of National Defense, that it had been found necessary to substitute twenty-four names of men for a like number agreed on at the previous meeting of the joint committee to serve as medical aides to the governors. He further reported that the men who had finally been selected, including the substitutions, had been notified of their appointments and had been ordered to present themselves in Washington to be commissioned and instructed at a conference held on Saturday, November 18. The joint committee was then called into session by Dr. Franklin Martin and the following were added to the committee: Drs. Franklin Martin, ex officio; Charles H. Mayo, President of the American Medical Association, and Robert L. Dickinson, Brooklyn. Just before the adjournment of this last named committee, the chairman of the War Committee of the American Medical Association announced that the Association stood ready to cooperate to further war interests stating definitely that the work volunteered by the Association must be done through its war committee in order to maintain the identity of the organization.

Since this meeting, held from November 16-18, inclusive, no advantage has been taken of the Association's offer to

cooperate with the Council of National Defense in the matter of establishing and standardizing the medical advisory boards, or in any other direction.

In January, the War Committee of the American Medical Association learned that the medical aides to the governors were being advised by the Committee on State Activities, General Medical Board, Council of National Defense, that their work had been completed, and that their active duty would cease. An inquiry addressed to the office of the Provost Marshal-General brought a reply stating that under the Selective Service Regulations that office has, under the Secretary of War, sole and exclusive jurisdiction of the administration of the Selective Service Law and the proper steps have been taken to continue the services of medical aides to governors until such time as this office is satisfied that their services are no longer necessary.

At its meeting, held on Feb. 1, 1918, the Board of Trustees further empowered the War Committee to act in cooperation with the Provost Marshal-General's Office, the Surgeon-Generals of the Army and Navy, and such other military offices as may be deemed best in the interest and for the successful conduct of the war, and directed Dr. A. R. Mitchell of Lincoln, Neb., to succeed Dr. E. J. McKnight, deceased, as a member of the War Committee representing the Board of Trustees. It further added to the War Committee as ex officio members thereof, the President and Secretary of the American Medical Association, and the editor of THE JOURNAL.

Under date of April 3 the Surgeon-General of the Army addressed the American Medical Association submitting a memorandum of a plan for the utilization of the organization and machinery of the Association, in addition to the activities of the other bodies, viz., the Medical Section of the Council of National Defense and the different sections and organizations of the American Medical Association, for the purpose of securing future increment to the Medical Reserve Corps and for keeping the numerical strength of the Corps up to the requirements of the service. This plan contemplates a close cooperation between the office of the Surgeon-General and the officials of the American Medical Association, through the officials of the different state and county medical societies and through the different section organizations of the American Medical Association. On receipt of this communication, the War Committee convened in Chicago, April 16, and by formal action undertook the task assigned to it by the Surgeon-General of the Army, and issued a statement announcing its action and declaring its confident anticipation of the hearty, active, patriotic cooperation of all physicians for the successful accomplishment of the task. Immediately, a call was issued for a conference of the secretaries of the constituent state associations which was held at the headquarters of the Association in Chicago on April 30.

At this conference, thirty-eight constituent state associations were represented by their secretaries or an accredited alternate. Dr. Thomas McDavitt, secretary of the Minnesota State Medical Association and chairman of the Board of Trustees, was elected chairman of the conference and the entire day was devoted to the discussion of how the organized medical profession can be utilized effectively for the winning of the war and, specifically, how the American Medical Association, its constituent state associations and their component county societies can assist in enrolling the required increments for the Medical Corps of the Army and Navy. On the adjournment of the conference, the secretaries of the state associations returned to the several states with the determination to coordinate the forces of the organized medical profession in their states with other agencies working with similar objects.

To determine to what extent the medical profession in various parts of the country had met its responsibility to the government the War Committee published in THE JOURNAL for June 1 a survey or Honor Roll of the medical profession of the United States. This survey presented under each state a table which showed important facts regarding each county in the state: the area, population, total number of physicians, number of physicians under 45 and under 55 years of age, number of women physicians, number of physicians members of the county society, and the number of physicians under commission in the Army and in the Navy. In addition to this table, there was published for each state, under the counties and postoffices the names of all those physicians of the state, who had accepted commissions in the Medical Reserve Corps of the Army and Navy or who were in active service in the Medical Department of the Federalized National Guard. The published list did not include the names of the members of the regular Medical Corps, those who had been commissioned in the Reserve Corps but who had not accepted their commissions, nor those who were serving as contract surgeons. This Honor Roll has proved effective in stimulating applications of commissions in the Medical Reserve Corps. The War Committee, with the cooperation of the war committees of the state associations and of the county societies, is confident that the increments for the Medical Corps of the Army and Navy which are or will be required will be supplied. Your committee is gratified to note the prompt and altruistic response of the profession to every appeal which the American Medical Association has made to the medical profession of the United States to serve in winning the war.

Respectfully submitted,

HUBERT WORK, Chairman,
M. L. HARRIS,
A. R. MITCHELL,
Ex-officio { CHARLES H. MAYO, President,
A. R. CRAIG, Secretary,
GEORGE H. SIMMONS,
Editor of THE JOURNAL.

Address by the President, Dr. Charles H. Mayo

The Chairman introduced Dr. Charles H. Mayo, Rochester, Minn., President of the Association, who addressed the House of Delegates as follows:

To the Members of the House of Delegates of the American Medical Association:

I am very glad to meet you. These are momentous times in medicine. Never before has medicine had the opportunity that it has today to make a record for itself in the world's work. The war could not be carried on if it were not for the work that has been done by medicine. We are today able to accomplish in wholesale manner the things that we used to fight for as units.

Medicine has changed from that in the past history of the world, and especially in army life and army work. It came about through much tribulation. Away back in the earliest history of our country, Washington, an engineer himself, gave the engineers first position. The physician then was a contract surgeon, and it took a long time before he was able to get a uniform. When he first got the uniform, soldiers were instructed that they need not salute medical officers. After a time the physician got an epaulet on his left shoulder, and later he was able to wear two of them; but slowly has the physician made progress in army life. We find this lack of appreciation evidenced in various ways all over the country, and especially in Washington. Medicine is very large in what it does, but it accomplishes things by various boards in various capacities all over the country, always splitting up, never a harmonious whole. In Washington today there are seventeen different boards and bureaus of medicine. Under the Treasury Department we have the National Public Health Service; under the Bureau of Labor, the Welfare of the Children and Protection of Industries; under the Department of Commerce, we have the Census Bureau, mortality statistics, and various other things connected with that department. Under the Department of the Interior we have control of the insane and the housing of the insane, all who do not belong to some local community. The various boards and bureaus are supported by appropriations, so that while we have an opportunity to have a wonderful national bureau of health, it cannot be because we are not permitted to coordinate this work, which is the ultimate goal of medicine.

In Europe the best organized department of the army is the medical service. War has changed in its conduct today. It is the business man that conducts war, and it is necessary that he prepare for it here as was done in France and in England. It is the business of war to use in every way the highest intelligence we have, not only to bring about the best fighting force, but to look after the preservation of the health of the soldiers and to keep the nation behind it, and this is the work of trained minds.

It has been the part of physicians for ages past to allow personalities, little bickerings and trouble to prevail among themselves. I often think that probably medicine stands as high today as it deserves to stand from the manner in which we have conducted ourselves. A lack of harmony in the profession itself has resulted in the position that we occupy. There are lots of good men in the profession. In fact, all are good men. But there has been a failure to work together in the past, a failure due to conducting our business as a personal unit in competition with others. This naturally led to the present conditions. We now have the opportunity due the greatest profession in the world. Our troubles are all our own fault, and I hope that in the discussions before this body, and in the work conducted at this meeting, we shall realize our great opportunity in developing this battle against the Hun. The part that we are to play in the world was never so great as at this time, and if it is possible to eliminate in every way anything that detracts from medicine as a whole, we shall have accomplished much for the future of medicine.

The work we are carrying on is great. It must not be allowed to be belittled by any one who would bring before this body anything that would tend to defeat us, because that would be aiding and abetting the enemy. It should be looked on as treason.

In our country, I think every member of the American Medical Association is doing his bit. All of the ex-Presidents and the President of this Association are in Washington helping to conduct the medical side of things. Our Chairman of the House of Delegates is an all-time worker in Washington. In Washington we have Dr. Billings, Dr. Vaughan, Dr. Welch, Dr. William J. Mayo, and Dr. Reed and Dr. McMurtry on the medical board; and in the administration we have Surgeon-General Blue and Surgeon-General Gorgas, ex-Presidents of the Association, so that the members of this Association have in no way been negligent of their duties from the highest to the lowest.

The Chairman said: I am very glad to assure you, Mr. President, that there is no feeling in the House of Delegates except the one of cooperation. We have no animosities, no axes to grind, no friends to reward, no enemies to punish. We represent the American Medical Association for what it has tried to do in the past.

At the conclusion of his report the Secretary presented a communication by Dr. John W. Trask urging that the Committee on Nomenclature be revived and reconstituted.

Address by Major Rist

The Secretary escorted Major E. Rist of France to the platform. Major Rist said:

Mr. Chairman and Members of the House of Delegates:

I thank you very much for your warm welcome. I feel very much honored to be present at this meeting of your Association. Your Chairman has asked me to say a few words. I hesitate to do so because I know that your time is precious.

It has always been my desire to be present at one of the meetings of the House of Delegates of the American Medical Association. I am an old friend and a diligent student of your medical organizations, of your universities and medical schools, and I am particularly glad that now so many physicians and surgeons of the United States are coming over to France that ties are going to be tightened between the medical professions of both countries. I think we in France have very much to learn from you. Especially we have to learn and to try to imitate your admirable spirit of association and organization. I know a little of the perfectly marvelous work which your Association during the last sixteen or twenty years has been doing in elevating the standards of the medical profession, in improving the conditions of medical education to a degree which I think is absolutely unparalleled in the history of medicine. This you owe to the leaders of this Association and to the characteristic spirit of association work in America. We have much to learn from you in this respect, and I should like to devote as much time as possible and in some way be to France a messenger from America, to tell them what can be done if one has really that spirit of association that you possess, and to urge my fellow physicians to try and in some way do some of the things which you are doing here.

I have been studying medical education in France, in Germany, in Great Britain, and in the United States. I think medical education in the United States is now the model of the world. I am perfectly sure that nowhere could there have been established as high standards for entrance into medical schools and as high standards of education in your schools. You lead the world in this respect. And there is another field in which the United States leads the world, and that is the field of public health. In this respect, the example which is being given now by your medical officers in France is a very inspiring one which, I am quite sure, we will try to follow even during the stress of war, but in a more complete and more perfect way when this war, thanks to the powerful cooperation of the United States as a nation, and the United States Army and Navy, will be brought to a victorious conclusion.

The Chairman said: Major Rist is known as the Osler of France. You will all agree, I am sure, that our only Sir William Osler might feel very much complimented at the designation.

The Chairman appointed as the Committee on Reapportionment Drs. Edward B. Heckel, Pennsylvania; P. S. Roy, District of Columbia, and John Ridlon, Illinois.

At 12:30 the House took a recess until 3 p. m. and reconvened at 3 o'clock.

Report of Committee on Credentials

Dr. D. Chester Brown, Connecticut, Chairman, presented a report for the Committee on Credentials, that 112 delegates had registered, and their credentials had been found correct, properly authorizing them to represent the states, sections and government services from which they came.

The Committee on Credentials reported further that Dr. E. D. Kilbourne had presented himself with letters of credit from the Hawaiian State Medical Association, but the Committee finds that the Doctor has not been a Fellow of the American Medical Association for the term of two years immediately preceding this Annual Session. In consequence the Committee recommends that the courtesies of the floor of the House of Delegates, without the right to vote, be extended to Dr. Kilbourne.

Dr. Dwight H. Murray, New York, moved the adoption of the report together with the recommendation.

Seconded and carried.

Resolution for Ad-Interim Committee

Dr. Charles H. Mayo, Minnesota, introduced the following resolution:

Resolved, That the House of Delegates create an Ad-Interim Committee to deal with emergency problems which constantly arise, such committee to consist of the President, President-Elect, the Chairman of the House of Delegates, the Secretary of the Association, the last two living retiring presidents, and Chairman of the Board of Trustees.

Resolved, That the President of the American Medical Association be authorized to appoint such members of committees which have not been provided for by the House of Delegates or the Board of Trustees. The work of such committee to be reported for consideration and action to the Ad-Interim Committee. (Referred to the Reference Committee on Amendments to the Constitution and By-Laws.)

Report on Red Cross Medical Work

Major W. C. Rucker, District of Columbia, Chairman, reported on Red Cross Medical Work, stating that this Committee had had no meeting and had done no work during the past year. The responsibility for this rested on the chairman, who had been in France, and therefore had been unable to give any attention to the matter.

Resolution on Use of Drugs

Under the head of "New Business," Dr. M. L. Graves, Texas, presented a resolution relative to the use of drugs originated or manufactured by citizens of nations with which we are at war. This was referred to the Reference Committee on Miscellaneous Business.

Report of Reference Committee on Reports of Officers

Dr. H. G. Wetherill, Colorado, reported for the Reference Committee on Reports of Officers, recommending that the report of the Council on Medical Education be referred to the Reference Committee on Medical Education. There being no objection, the Chairman ordered the reference recommended.

Resolutions on Animal Experimentation

Dr. P. S. Roy, District of Columbia, offered two resolutions, which he presented as a representative of the Medical Society of the District of Columbia. The first one conveyed a protest against endeavors to check animal experimentation, declaring that persons who endeavored to arrest any aid that the medical profession through such animal experimentation or otherwise is giving to our soldiers constituted a dangerous class and were aiding the enemy. The second related to the inadequacy of the supply of trained nurses to meet the needs in civilian life, while at the same time caring for the armed forces. Both these resolutions were referred to the Reference Committee on Hygiene and Public Health.

Resolution on Rank for Women Physicians

Dr. E. O. Smith, representing the Section on Genito-Urinary Diseases, introduced a resolution recommending that the President of the United States, Secretary of War, and Surgeon-General of the Army appoint women physicians to the Medical Reserve Corps of the United States Army on the same footing and with the same rank and pay as men. This resolution was referred to the Reference Committee on Legislation and Political Action.

Dr. H. G. Wetherill, Colorado, offered a similar resolution and requested that it be referred to the same Reference Committee. The resolution was so referred.

Dr. Abraham Jacobi, New York, an ex-president of the American Medical Association, was escorted to the platform and introduced to the House of Delegates amid great applause.

Dr. John Ridlon, delegate from the Section on Orthopedic Surgery, presented a resolution in reference to universal military training, which was referred to the Reference Committee on Miscellaneous Business.

Resolution for Revision of Patent Laws

Dr. E. Eliot Harris, New York, offered a resolution calling for a revision of the patent and trademark laws as applied to all medical and surgical products and devices, which resolution was referred to the Reference Committee on Legislation and Political Action.

Resolution on Health of Civilian Communities

Dr. Floyd M. Crandall, New York, offered a resolution calling for cooperation in securing the greatest possible degree of health in the community, which was referred to the Reference Committee on Medical Education.

Amendment to By-Laws

Dr. Rock Sleyster, Wisconsin, presented the following amendment to Article IV, Section 3, by adding the following:

"Provided, however, that the House of Delegates may change the time of election by an action taken at a meeting at least a day in advance of that to which the election is to be changed, and provided, further, that the motion to change the time of election shall be supported by three-fourths of the delegates present and voting."

The amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. M. A. Kelso, Oklahoma, presented a resolution which was referred to the Reference Committee on Miscellaneous Business.

Resolution on Rehabilitation and Reeducation of Disabled Soldiers

Dr. George H. Kress, California, presented two resolutions. The first referred to the conserving of means now being established for the rehabilitation and reeducation of crippled soldiers, in order that these facilities may be available for similar work at the close of the war in connection with those who are injured in the course of their civil occupations. This resolution was referred to the Reference Committee on Hygiene and Public Health. The second resolution referred to the utilization of the services of women physicians of the country as members of the Medical Reserve Corps. This was referred to the Reference Committee on Legislation and Political Action.

On motion, which was duly seconded and carried, the House of Delegates adjourned, to meet at 9:30 a. m., Tuesday.

Second Meeting—Tuesday Morning, June 11

The House of Delegates met at 9:30 a. m. and was called to order by the Chairman.

A quorum being present, the Secretary read the minutes of the previous meetings.

Dr. F. C. Warnshuis, Michigan, moved that the minutes be adopted as read.

Seconded and carried.

Supplementary Report for Committee on Credentials

Dr. D. Chester Brown, Connecticut, chairman, made a supplementary report for the Committee on Credentials, stating that six additional delegates had registered and were entitled to seats in the House of Delegates.

It was moved that the report be accepted.

Seconded and carried.

Report of Reference Committee on Medical Education

Dr. E. A. Hines, South Carolina, chairman, presented the report of the Reference Committee on Medical Education, as follows:

Your committee reports to the Council on Medical Education as follows:

We recommend that the report be endorsed as a whole. No one can read and study this report and consider the results obtained without being impressed with the great importance of the Council's work and its far reaching effect on the medical profession and on the practice of medicine in the United States.

In the excitement and confusion which temporarily resulted from the entrance of this country in the war, it is pleasing to know that educational standards are still being upheld. Nothing short of extreme emergency should be permitted to in any way lower the standards which the Council has so creditably been able to establish, and in this connection several portions of the Council's report deserve special consideration and emphasis:

A thorough knowledge shows that the conditions of the government medical service are not such as to either demand or warrant any reduction in educational standards in regard to either preliminary or medical education. On the contrary, the present needs indicated are of more careful preparation and more thorough instruction than at any previous time. If, in an emergency, any change becomes necessary, it should

be by establishing continuous sessions or more intensive instruction than at present prevails. But this should not result in lowering the standard of preliminary education or in reducing the number of hours or their thoroughness of instruction. Even if extreme emergency should demand shortening of the medical course, it should be at the expense of the final portion of the student's work and not at the expense of either preliminary education or of the student's training in the fundamental medical branches.

Attention is called to the standard of education preliminary to the study of medicine prepared by a special committee of the Council on Medical Education. It is evident that this report has been prepared by those who are authorities on those subjects and who have considered carefully the needs of both general and medical education in the country taken as a whole. Your committee recommends that the standard of high school and premedical college preparation included in the report of this special committee receive the endorsement of the House of Delegates.

It is recommended that the Council be given authority to proceed to prepare a new classification of medical colleges just as soon as circumstances will permit, and that the new schedule for the grading of medical schools in future classifications be endorsed.

Attention is called to the fact that the work of the Council in connection with the standardization of hospitals has been in progress since 1913 and represents the only part of the "ideal standard" suggested by the Council in 1904 which has not been generally adopted by the medical schools and state licensing boards in this country. The Council's first list of hospitals which were considered in position to furnish acceptable internships was issued in 1914 and has passed through its second edition. A third revised edition is now in course of preparation. Considering the extensive machinery provided by the American Medical Association through its various constituent state associations, your committee considers that the Council is in an unusually strong position to continue to do effective work along this line. It is recommended, therefore, that the Council be instructed to continue its work in the investigation and standardization of hospitals and that it cooperate as far as possible with medical colleges, state licensing boards and other interested agencies.

Attention is called to the paragraphs in regard to the progress in medical licensure and to the chart showing the advances in the requirement of preliminary education by state boards. These advances are paralleled only by the advances made by medical schools.

Special attention is called, however, to one portion of the Council's routine work, namely, its presentation of statistics regarding physicians licensed in various states. For example, Table 2 in the Council's report is of unusual importance, and the attention of each delegate is called particularly to the line for his home state. It will be seen that in some states graduates of low grade colleges are still being registered in large proportions. Worse than this, it will be seen that in California not only have graduates of low grade colleges been licensed, but the doors have been thrown open to graduates of osteopathic colleges. As noted in Footnote 2: "Of the 83 graduates, 73 were graduates of eight osteopathic colleges which are not generally recognized as medical schools by state licensing boards and only one of the colleges has been recognized by the California board." Attention is also called to the situation in Arkansas, Connecticut, Florida and elsewhere, where two or more separate and independent boards have to do with the licensing of physicians. As noted in Footnote 1, there is a sectarian board in Arkansas which is licensing the graduates of low grade colleges. Improvements in medical laws or in methods of medical licensure are clearly necessary in several states. The states in which changes are most needed are further indicated in Table 4.

The attention of the House of Delegates is called to the statements in regard to the scope of the Council's work and to the extensive files of information at the Council's headquarters. A reading of the statements in regard to these files will give a better appreciation of the tremendous influence exerted by the Council and its work. In fact, the Association can view with satisfaction the great assistance which, through the Council on Medical Education, the Association has been able to render to the office of the Surgeon-General in the present national crisis.

E. A. Hines, Chairman,
J. B. Blake,
W. S. Lalor,
Robert E. Noble.

It was moved and seconded that the report be adopted as read. Carried.

Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr. Floyd M. Crandall, New York, chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws.

The Reference Committee on Amendments to the Constitution and By-Laws would respectfully report as follows:

Amend Chapter VII, Section 3, of the By-Laws, by adding

(f) Ad-Interim Committee.

Sec. 9. Ad-Interim Committee.—There shall be an Ad-Interim Committee, which, between the annual sessions of the House of Delegates, shall consider and act on emergency problems which may arise. This committee shall consist of the President, the President-Elect, the Speaker of the House of Delegates, the Secretary of the Association, the Chairman of the Board of Trustees, and the last two living ex-Presidents. The Speaker of the House of Delegates shall be the Chairman of the Committee, and the Secretary of the Association its Secretary. This Committee shall be subject to the call of its Chairman.

Renumber present Sections 9, 10 and 11.

Amend Chapter V, Sec. 1, of the By-Laws by inserting the following:

He is authorized to nominate committees which have not been provided for by the House of Delegates or the Board of Trustees, which nomination shall be subject to the approval of the Ad-Interim Committee. The Committee so organized shall exist only until the next meeting of the House of Delegates. They must report to the Ad-Interim Committee before the next meeting of the House of Delegates.

At the conclusion of the report, Dr. Crandall moved its adoption, which motion was seconded by Dr. Cyrus L. Stevens, Pennsylvania.

After discussion by Dr. George D. Head, Minnesota; Dr. Floyd M. Crandall, New York; Dr. Alexander Lambert, New York; Dr. Lewis S. McMurtry, Kentucky; and the Chairman of the House of Delegates, the motion to adopt was put and carried.

Dr. Floyd M. Crandall, New York, Chairman, presented the following report for the Reference Committee on Amendments to the Constitution and By-Laws.

Amend Article 9, Section 1, of the Constitution by striking out the words "Chairman and Vice Chairman of the House of Delegates" and substitute the words "Speaker and Vice Speaker of the House of Delegates."

Floyd M. Crandall, Chairman,
H. E. Odell, Medical Inspector, U. S. Navy,
C. P. Meriwether,
Rock Sleyster,
C. L. Stevens.

The committee recommends the adoption of the amendment.

It was moved and seconded that the recommendation of the Committee be concurred in. Carried.

Dr. Floyd M. Crandall, New York, moved that the Secretary of the Association be empowered to rearrange the paragraphs and make such changes in numbering as may be necessary to render the Constitution and By-Laws consistent.

Seconded and carried.

The committee reports further:

Amend Chapter IV, Section 3 of the By-Laws by the addition of the following words: "provided, however, that the House of Delegates may change the time of election by action taken at a meeting at least one day in advance of that to which the election is to be changed, and provided, further, that the motion to change the time of election shall be supported by three fourths of the delegates present and voting."

The section will then read:

Sec. 3. TIME OF ELECTION.—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the afternoon of the fourth day of the Annual Session of the House of Delegates (the second day of the Scientific Assembly), provided, however, that the House of Delegates may change the time of election by action taken at a meeting at least one day in advance of that to which the election is to be changed, and provided further that the motion to change the time of election shall be supported by three fourths of the delegates present and voting.

It was moved and seconded that the amendment be adopted. Carried.

It was moved that the report be adopted as a whole. Seconded and carried.

Report of Reference Committee on Hygiene and Public Health

Dr. J. W. Schereschewsky, U. S. Public Health Service, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

There has been referred to your Reference Committee on Hygiene and Public Health, among other matters, a resolution introduced by Dr. George H. Kress, California, which reads:

WHEREAS, Our European Allies have, in their vast necessity, found it advisable to undertake a systematic rehabilitation of crippled soldiers through occupational therapeutics, followed by reeducation; and,

WHEREAS, There are more people crippled in industry than there will be in our Armies if all the men now in service enter the field, if their experience corresponds to that of the Allies; and,

WHEREAS, A bill has recently been introduced in Congress which, if passed, will provide occupational therapeutic hospitals and auxilary workshops for rehabilitation of crippled soldiers and sailors, and will provide reeducation with compensation for services during rehabilitation. Therefore, be it hereby

Resolved, By the Medical Society of the State of California in its forty-seventh annual meeting, held at Del Monte, April 16, 17 and 18, 1918, that the necessities of the industrially injured require and warrant that the scope of the above referred to legislation be broadened to permit of provision for rehabilitation and training of those who have been incapacitated by industrial injury or by personal injury.

Dr. Wilmer Krusen, Pennsylvania, moved the adoption of the resolution as read.

Seconded and carried.

The committee also had referred to it a resolution by Dr. Roy, representing the Medical Society of the District of Columbia, which reads:

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

At a meeting held May 29, 1918, the following report was received and the resolutions therein adopted:

Your Committee on Nursing begs leave to submit the following report:

In view of the present inadequate supply of trained nurses and the great and increasing demand for them both for war work and in civil life; and in view of the fact that many persons in moderate circumstances, or on fixed salaries, with the present high cost of living are unable to afford the services of a registered nurse when ill; and in view of the fact that the present system of training and registering nurses seems to many members of our profession to have serious defects that may be remediable, your Committee recommend the following resolutions:

1. *Resolved*, That our delegate to the American Medical Association be instructed to ask for the appointment by that body of a committee to consider the whole question of training and registering nurses, with special reference to standardizing and simplifying the curriculum and requirements and the advisability of establishing a grade of practical nurses who, with a lower preliminary educational requirement and a much shorter course of training may be registered as attendants or practical nurses, and who shall receive a smaller compensation than the graduate nurse; such attendants or practical nurses to be used especially for chronic and convalescent cases and others not requiring the highest nursing skill, thereby relieving many graduate nurses for war work and critical cases in civil practice.

2. We also recommend that our delegate to the American Medical Association be furnished with a copy of this preamble and resolutions for use in the House of Delegates of the A. M. A. and instructed to urge prompt action with such arguments as he deems advisable.

W. P. CARR,
G. WYTHE COOK,
I. S. STONE,
J. B. NICHOLS,
J. A. GANNON,
N. P. BARNES,
FRANK LEECH,
M. F. CUTHBERT,
P. S. ROY,
G. N. ACKER,
C. S. WHITE,
E. Y. DAVIDSON,
Committee.

Your committee desires to endorse not only the needs as expressed in the resolution, but also the necessity for the enlargement of all civilian training schools and necessary propaganda to secure a sufficient number of pupils for these. It recommends the adoption of the resolution and the appointment of a committee as suggested.

J. W. SCHERESCHEWSKY, U. S. P. H. S.
H. P. RITCHIE, Minnesota.
FREDERIC E. SONDERN, New York.
C. D. SELBY, Ohio.
J. R. MORRELL, Utah.

Dr. Henri P. Linsz, West Virginia, moved the adoption of the resolution.

Seconded by Dr. E. J. Goodwin, Missouri.

After discussion by Dr. Thomas S. Cullen, Maryland; Dr. John D. McLean, Pennsylvania, and Dr. J. W. Schereschewsky, U. S. Public Health Service; Dr. Frederic E. Sondern, New York; Dr. P. S. Roy, District of Columbia, and Dr. George H. Kress, California, the Reference Committee substituted for the final paragraph of its report, which reads:

Your Committee desires to endorse not only the needs as expressed in the resolution, but also the necessity for the enlargement of all civilian training schools and necessary propaganda to secure a sufficient number of pupils for these. It recommends the adoption of the resolution and the appointment of a Committee as suggested.

the following:

Your Committee desires to endorse not only the needs as expressed in the resolution, but also the necessity for the enlargement of all civilian training schools and necessary propaganda to secure a sufficient number of pupils for these. It recommends the adoption of the principle of the resolution and that the resolution be referred by the House of Delegates to the Council on Health and Public Instruction with the following instructions:

1. That the Council on Health and Public Instruction appoint a subcommittee to consider this matter.

2. That this Committee consider especially the needs of the civic population with regard to nursing.

3. That this Subcommittee cooperate and advise existing nursing associations and other agencies concerned in this matter.

Whereupon the motion to adopt the report as amended by the Reference Committee was put and carried.

The Reference Committee on Hygiene and Public Health reports further that the following resolution had also been referred to the committee:

The Medical Society of the District of Columbia, at a meeting held May 23, 1918, adopted the following recommendation of the Executive Committee:

WHEREAS, The work of the American Red Cross is largely medical in character, and

WHEREAS, Modern medicine is largely dependent for continued progress on the use of animals for experimentation and in the course of treatment of disease, and

WHEREAS, The War Council of the American Red Cross, by reason of pressure brought to bear by certain misguided people ignorant of medical matters, has seen fit to issue the statement that it will not take a position either for or against the question of animal experimentation, and further has issued the statement that no money is to be taken from the General Red Cross Fund for this purpose, therefore be it

Resolved, That the Medical Society of the District of Columbia vigorously protest against such action by the Red Cross and its attitude of passive compliance with such demands concerning purely medical matters, and further be it

Resolved, That the Society state its belief that such persons who endeavor to arrest any aid that the medical profession is giving to our soldiers constitute a dangerous class giving aid to the enemy.

The delegate to the American Medical Association is instructed to ask the American Medical Association to take suitable action in this matter.

Your committee desires to fully endorse the sentiment of the resolution as undoubtedly in the best interests of humanity and medical progress.

As the Councilors of the American Red Cross have, however, found it expedient to act as they have, and we have the assurance that ample funds have been provided for essential research and no restrictions exist for the proper conduct of the work, your committee recommends that these resolutions be not adopted on account of any possible embarrassment to the Red Cross they might cause.

Dr. P. S. Roy, District of Columbia, moved as an amendment that the House of Delegates strongly endorse the use of animal experimentation for saving the lives of our soldiers and proclaimed all who are opposed to such animal experimentation belong to a dangerous class and aid the enemy.

Seconded by Dr. G. F. Cott, New York.

After discussion by Dr. H. M. Brown, Wisconsin; Dr. Thomas S. Cullen, Maryland; Dr. Alexander Lambert, New York; Dr. Torald Sollmann, Ohio, and Dr. John D. MacLean, Pennsylvania. Dr. M. L. Graves moved that the amendment be laid on the table.

Seconded and carried.

It was then moved that the report as amended be adopted as a whole.

Seconded and carried.

Report of Reference Committee on Legislation and Political Action

Dr. M. L. Graves, Texas, chairman, presented the report of the Reference Committee on Legislation and Political Action as follows:

Your committee has carefully considered the report of the Council on Health and Public Instruction. The enlistment of three of the five members of the Council in war service and the engrossment of the remaining two in state health work and cooperation with the federal Health Department has necessarily greatly restricted the activities of the Council; but the service rendered the public is still of importance and deserves our commendation. It is believed that the organization should be continued and proper appropriations made by the Trustees not only for the perpetuation of such work as may be done during the war, but for enlarged usefulness after the war. The public mind is now and will in all probability continue to be more receptive of health propaganda than ever before. The removal of physicians and nurses in large numbers from the communities of our country makes it imperative that health conditions be more carefully guarded, and we think the organization of home nursing and sanitation now being undertaken by many hospitals and women's organizations will be very helpful in public health education. Moreover, new and revolutionary processes of disease prevention and health protection are being constantly developed by the experiences of all the nations engaged in the war, and this information comes at a time of intense public interest and will find a more ready acceptance and adoption. The committee believes and therefore recommends that the work of this Council be continued as far as possible, and that sufficient financial provision be made therefor. Careful consideration has also been given to the three resolutions pertaining to women physicians introduced by Smith, Wetherill and Kress. The committee is of the opinion that the very character of military service and women's natural limitation for such service must require wise discrimination in their employment in war work. The principle of equal rank and pay for equal service is inherently just without regard to sex, and the committee feels this should be unhesitatingly approved by the House.

We therefore recommend that the resolutions offered by Wetherill as a substitute be approved with the following amendment. In the last paragraph use the words "Surgeon-Generals of the Army, of the Navy, and of the Public Health Service to authorize the employment of such unselfish women physicians in the service of the government in any of the many fields for which they are especially fitted by natural ability and training and that when so employed, adequate rank and pay be provided in every way equal to that of men similarly employed."

Resolution by Harris of New York pertaining to patent and trademark laws is approved.

Respectfully submitted,

M. L. GRAVES, Chairman,
A. E. BULSON, JR.,
GEORGE H. KRESS,
SOUTHGATE LEIGH,
E. E. HARRIS.

Committee on Legislation and Political Action.

The committee appends hereto copies of the resolutions referred to in their report which were submitted, respectiveiy, by Drs. Kress, Smith and Wetherill.

RESOLUTION INTRODUCED BY DR. GEORGE H. KRESS

WHEREAS, Women physicians in Great Britain, France, Russia, Serbia and Germany have performed invaluable services during the present war, services which have been signally recognized by their respective governments; and

WHEREAS, In the United States there was a large number of women physicians fitted and equipped to render equally valuable service, and to render service as efficient and valuable as can be rendered by men physicians, not only as anesthetists, radiographers, and hospital and laboratory directors, but also as surgeons, now therefore, be it

Resolved, That the Medical Association of the State of California express its desire that the American Medical Association do all in its power to further the utilization of the service of women physicians of the country as members in full standing of the Medical Section of the Officers' Reserve Corps and United States Public Health Service.

RESOLUTION INTRODUCED BY DR. E. O. SMITH

WHEREAS, There are at this time 5,124 women physicians in actual practice in the United States; these having graduated from recognized medical colleges and presumably qualified to practice medicine; most, if not all of them, having signified their readiness to do war work either at home or abroad;

WHEREAS, There are at present many women physicians, who have especially fitted themselves to do the kind of laboratory and research work for which the government is now fitting men at a great expense of time and money;

WHEREAS, The sixty-five American women physicians who are now working under the Red Cross in the war zone with many other women physicians from Great Britain, France, Russia and Italy have demonstrated that it is possible for women to endure the hardships of life in the war zone and still do creditable work;

WHEREAS, Our highest and most patriotic duty at this time is conservation, and the indiscriminate sending abroad of women physicians to do work other than under government supervision and direction is a pernicious waste of money, time and service; therefore be it

Resolved, That we, the members of the House of Delegates of the American Medical Association in session at Chicago, June 10, 1918, hereby recommend that the President of the United States, the Secretary of War and the Surgeon-General of the Army appoint women physicians to the Medical Reserve Corps of the United States Army on the same footing and with the same rank and pay as men.

RESOLUTIONS INTRODUCED BY DR. WETHERILL AS MODIFIED BY REFERENCE COMMITTEE

WHEREAS, The nation is at war and all our resources and energies must be devoted unreservedly to the winning of the war, wherever they may be made available, and

WHEREAS, Many of our women physicians have distinguished themselves by giving to the government and to the cause of humanity most unselfish and capable service in the fields of work for which they are particularly adapted and trained, and

WHEREAS, These critical times demand universal sacrifice and individual readiness to serve in any field in which one may be most useful regardless of official recognition or reward, and

WHEREAS, Thousands of loyal Americans are serving our country without adequate pay or appropriate place or rank, therefore, be it

Resolved, By this House of Delegates of the American Medical Association, that we wish to express our appreciation of the unselfish sacrifices so many of the women physicians of America are making, and, that we honor those who have so employed their skill and energy in our common cause; and furthermore be it

Resolved, That we petition the President of the United States, the Secretary of War and the Surgeon-Generals of the Army, of the Navy and of the Public Health Service to authorize the employment of such unselfish women physicians in the service of the government in any of the many fields for which they are especially fitted by natural ability and training and that when so employed, adequate rank and pay be provided, in every way equal to that of men similarly employed.

Report of Reference Committee on Reports of Officers

Dr. H. G. Wetherill, Colorado, chairman, presented the following report of the Reference Committee on Reports of Officers:

Your committee is prepared to make only a partial report on some matters, and as others are regarded of such great importance, we ask for more time to consider them.

Regarding the report of the Secretary, your committee desires to refer to a matter which has already been referred in this morning's session, namely, that which pertains to an Ad-Interim Committee. We find in the report of the Secretary under date of Oct. 19, 1917, the following report of the Board of Trustees was submitted by the Chairman of the House of Delegates and the Secretary to the Members of the House of Delegates of the American Medical Association and was adopted unanimously by a postal vote, 116 votes having been cast. The Secretary recommends that action be taken by the House of Delegates at its annual session to ratify this action of the Board of Trustees and to continue this committee with

power to act for the Association in all matters pertaining to placing the Association at the service of the government.

Your committee recommends, therefore, the ratification of this action of the Board of Trustees, and I move that the ratification be made by the House of Delegates and the power of the committee be endorsed.

Seconded and carried.

In the report of the Board of Trustees we find several matters which we believe should be endorsed by the action of the House of Delegates. The Propaganda Department under the Board of Trustees with reference to quack advertising, and so forth, has commended itself to your committee, and we desire to recommend it to the House for endorsement.

Furthermore, with reference to the disposition of law suits, we think the Board of Trustees should be congratulated on the excellent results attained in the various law suits, particularly the Lydston suit, which has gone through the courts for a long time before it reached the American Medical Association, and we recommend that the House of Delegates approve the work of the Board of Trustees in this particular.

The most important of all is the work of the War Committee which the Board of Trustees has carried out. Your committee feels that the war work of the Board of Trustees has been very efficient, and we recommend for approval by the House of Delegates the report the Board of Trustees made regarding the work in connection with the war.

I move you, sir, that these recommendations be adopted by the House of Delegates, and that the Board of Trustees be commended for the excellent work done in these various particulars.

Motion seconded by George A. Moleen, Colorado, and carried.

It was moved that the report be adopted as a whole.

Seconded and carried.

Under the head of "new business," Dr. M. L. Graves, Texas, presented, at the request of William G. Priester, a communication relative to insignia for physicians' automobiles so as to distinguish them from other automobiles, and moved that the communication be referred to the Board of Trustees for consideration.

Seconded and carried, and the communication was so referred.

Dr. Rock Sleyster, Wisconsin, moved that the election of officers be held Thursday at 10 a. m. instead of in the afternoon at 2 o'clock.

Seconded by Dr. C. P. Meriwether, Arkansas.

Dr. Stewart R. Roberts, Georgia, moved to amend that the House of Delegates meet at 8 a. m. Thursday.

The amendment was seconded, accepted, and the original motion as amended was put and carried.

Report of Reference Committee on Miscellaneous Business

Dr. Charles E. Humiston, Illinois, chairman, presented the Report of the Reference Committee on Miscellaneous Business in regard to the following resolution offered by Dr. John Ridlon:

WHEREAS, The partial inventory of our national health made possible by the physical examinations under the Selective Draft Act showed a large percentage of our young men unfit for military service, and, further, that as most of these disabilities are curable, the American Medical Association is prompted to speak formally on this subject; and

WHEREAS, In view of the wonderful mental and physical benefits which have been manifested in the young manhood of America through intensive military training in the National Army cantonments; and

WHEREAS, Knowing that this training has done much to inculcate the knowledge and value of sanitation and personal hygiene in the individual; therefore be it

Resolved, That the American Medical Association in annual convention assembled urges the early adoption of a permanent national policy of universal military training for all young men before the right of suffrage is granted them.

Your committee recommends the adoption of this resolution.

It was moved and seconded that the resolution be adopted as recommended by the committee. Carried.

Regarding the resolution offered by Dr. Kelso, which reads:

WHEREAS, The medical profession of America is called on to do its duty inherent in those rights vouchsafed by our common constitution, with the innate idea and belief that our membership constitutes true patriatism and, that we as men of a high calling are entitled to equal standing with the profession in all parts of the world; therefore be it

Resolved, By the American Medical Association, the representative organization of the one hundred and forty thousand physicians of America, that we unqualifiedly endorse the proposed Medical Officers Law now before Congress, known as the Owen-Dyer bill, and urgently request its immediate enactment into law.

Your committee recommends that this resolution as rewritten be adopted, namely,

WHEREAS, The medical profession of America has been called on to do its duty in the present crisis and

WHEREAS, The physicians of America are entitled to equal standing with the profession in all parts of the world, therefore be it

Resolved, By the American Medical Association, the representative organization of the physicians of America, that we unqualifiedly endorse the principle of the Owen-Dyer bill, and request Congress to take prompt and favorable action on this measure as it has been framed by the Senate Subcommittee.

I move its adoption.

Seconded by Dr. G. F. Cott, New York.

After discussion by Dr. H. M. Brown, Wisconsin; Gen. Robert E. Noble, District of Columbia, and Dr. Miles F. Porter, Indiana, the amended resolution was adopted.

Dr. Thomas S. Cullen, Maryland, offered the following resolutions and moved their adoption:

To the President of the American Medical Association and Members of the House of Delegates:

The following resolutions are herewith submitted for your consideration:

WHEREAS, In accordance with Army regulations, Major-Gen. William C. Gorgas, now Surgeon-General of the United States Army, will reach the prescribed age of retirement in October, 1918; and

WHEREAS, By virtue of his scientific attainments and his statesman-like vision he has proved himself eminently qualified not only to meet the extraordinary exigencies of the present situation, but also to plan with great foresight for the future development of the Medical Department of the Army; and

WHEREAS, By his conduct of affairs and by his character as a man he has gained the admiration and complete confidence not only of the medical profession of the country but of the civilian population as well, be it therefore

Resolved, That it is the sense of the American Medical Association, now in session in Chicago, Illinois, that it would be for the best interests of the nation, if General Gorgas be continued in his present office as Surgeon-General of the United States Army, and be it further

Resolved, That this expression of appreciation and confidence be communicated to the President of the United States.

Motion seconded by Dr. Wilmer Krusen, Pennsylvania, and carried.

Report of Reference Committee on Miscellaneous Business

Dr. Charles E. Humiston, Illinois, chairman, presented a report of the Reference Committee on Miscellaneous Business in regard to the resolution offered by Dr. M. L. Graves, Texas, which reads:

Resolved, That the House of Delegates of the American Medical Association is opposed to the use or prescription for use of all drugs, chemicals, medicines, medical and surgical instruments and supplies of German or Austrian origin or ownership. That the medical profession be urged to cease their purchase or use, and

Resolved, further, That the medical and lay press of America be requested to discontinue advertisements of all such articles to the profession and to the public.

Your committee recommends the passage of this resolution, and I so move.

Seconded by Dr. Wilmer Krusen, Pennsylvania.

After discussion by Drs. Torald Sollmann, Ohio, and Charles E. Humiston, Illinois, Dr. H. Bert Ellis, California, moved that the resolution be laid on the table.

Seconded and carried.

Dr. J. B. Blake, Massachusetts, offered the following resolution. The house suspended its rule, and, on motion duly seconded and carried, adopted the resolution.

Resolved, That the House of Delegates of the American Medical Association is in sympathy with and endorses the general outline of the plans of the Surgeon-General for the creation and operation of an army school of nursing.

Dr. V. G. Vecki, California, presented a resolution relative to establishing an undergraduate class of medical students, which was referred to the Reference Committee on Legislation and Political Action.

Dr. W. T. Wootton, Arkansas, presented the following preambles and resolutions, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws:

WHEREAS, We recognize the liberty enjoyed by the practicing physician of today in that he may follow along broad lines in the management of the sick entrusted to his care and that we would not deprive him of one iota of that liberty; and,

WHEREAS, We believe that the mobilization of our Army and the experience of the hospital units show it to be to the best interest of the patient that he receive at all times a more uniform treatment, one recognized and endorsed by the best medical minds of today; and

WHEREAS, At present there is no committee or council within our ranks to give such endorsement; therefore, be it

Resolved, That the President of the American Medical Association, the Chairman of the House of Delegates, with the chairmen of the various sections be and they are hereby appointed a standing committee to select a Council on Standardizing Surgical Procedures and Medical Practice, the number and personnel to be entirely at the committee's discretion, power being hereby given them to fill vacancies or enlarge said Council as necessity may demand; and further appoint an Advisory Committee to said Council should they desire. Be it further

Resolved, That no action of this Council shall be deemed binding on any physician or surgeon, that no effort shall be made to foster any creed, sect, dogma or other stigma; the object being strictly to weed out fallacies, gather data, and give the profession an unbiased report as to efficacy of procedures in order that we, the rank and file, may not linger in doubt as to what may be considered judicious, conservative practice.

Dr. Torald Sollmann, Ohio, offered the following resolution, which was referred to the Reference Committee on Miscellaneous Business with the request that the committee report on it as soon as possible:

Resolved, That the American Medical Association calls on its members to further the conduct of the war by confining their prescribing to products owned and manufactured by loyal citizens of this country or of our allies, whenever the interests of the patients permit.

Dr. Charles E. Humiston, Illinois, chairman, reported that the Reference Committee on Miscellaneous Business recommends the adoption of the resolution offered by Dr. Sollmann, and he so moved.

Motion seconded by Dr. Lewis S. McMurtry, Kentucky, and carried.

Dr. Southgate Leigh, Virginia, presented the following resolution:

In order that the tabling of the resolution offered by Dr. Roy in regard to animal experimentation shall not be misconstrued by the press and others, it is moved that the Reference Committee on Hygiene and Public Health should be instructed to frame and present a resolution reaffirming the belief of this Association in the efficacy and necessity of animal experimentation.

The chairman stated that the committee would be so instructed.

It was moved that the chairman of the House of Delegates be authorized to transmit to the proper reference committee any resolution which may be received from the sections prior to the meeting on Thursday morning, so that the committees could bring in such resolutions to the House of Delegates for action.

Seconded and carried.

Dr. J. W. Schereschewsky, U. S. P. H. S., moved that in view of the fact that industrial medicine and surgery is now a definite branch of medicine, the question of proper designation of industrial physicians and surgeons be referred to the Reference Committee on Sections and Section Work for a report on Thursday morning.

Seconded and carried, and the motion was so referred.

On motion, which was duly seconded and carried, the House of Delegates adjourned until 8 a. m. Thursday.

THE SCIENTIFIC ASSEMBLY

THE OPENING GENERAL MEETING

Tuesday Evening, June 11

The opening meeting of the Association was held in the Auditorium theater and was called to order at 8:15 p. m., by the President, Dr. Charles H. Mayo, Rochester, Minn.

Dr. John Timothy Stone delivered the invocation.

Almighty God, our Father in Heaven! Thou who art guiding this nation, and Thou who hast guided this nation, as history has spoken, we thank Thee for what Thou art, and for what Thou hast been, and for what Thou art to be. And we thank Thee for our land with all its splendid enthusiasm for righteousness, justice and truth, and all the splendid power, all the freedom of the heart and conviction of soul, for that which is true and godlike. And now tonight as this assembly meet together in this our city, and as we welcome them in the spirit of gratitude and earnest, thoughtful pride, we pray that Thy blessing may be with all of their deliberations and that their good effect may extend even to France, and to the uttermost parts of the world. We thank Thee that the love of service belongs with the heart of faith. We thank Thee for the courage and for the skill and the faithfulness and the patience of the men of medicine and surgery whose life is not held dear in any cause where they may give their service and their heart to the nation and to the nations warring in the strife for freedom. O God! We thank Thee for what they are with the men at the front. We thank Thee for what they are with those who are training here at home. And we do pray, O God, at this time a signal and earnest devotion to our country, of honest and holy patriotism; that they may prove that we as a people in this land are grateful to Thee, Almighty God, for the service and the devotion and the faithfulness of these men who are doing so much today to make our cause a permanent cause, and to make the lives of our sons and the life of this nation all that Thou wouldst have it. And, O God, we close our petition with this great world prayer: We do not ask Thee, Almighty God, to be on our side. But we pray Thee, Eternal One, that we as a nation, and our allies may more and more, in the cause of freedom and righteous liberty, be on Thy side, where Thou hast placed us. And O God, be with us as we unite in the prayer that the Great Physician, Thy Son, taught us:

Our Father who art in heaven, hallowed be Thy name. Thy kingdom come. Thy will be done on earth as it is in heaven. Give us this day our daily bread, and forgive us our trespasses as we forgive those who trespass against us. Lead us not into temptation, but deliver us from evil. For Thine is the kingdom and the power and the glory forever. Amen.

Before the opening of the meeting the distinguished visitors from abroad, the ex-Presidents of the Association, the Surgeon-Generals of the Army and Navy and other government officials, together with the physicians in uniform, including the physicians' band from Fort Reilly, occupied the stage. The national anthem was played by the band while the audience stood, the officers at salute.

Addresses of Welcome

Dr. E. W. Fiegenbaum, president of the Illinois State Medical Society, was introduced, and welcomed the members on the part of the profession of the state.

ADDRESS OF WELCOME BY DR. E. W. FIEGENBAUM

Mr. President, Fellows of the American Medical Association, Ladies and Gentlemen: The medical profession of the great state of Illinois sends you a most hearty greeting. Speaking in their behalf and in behalf of the organized medical profession, I bid you a most hearty welcome. We are not all here tonight. Nearly 2,000 of the foremost medical men of Illinois have volunteered in the service of their country. (Applause.) They have commissioned me to speak for them this evening. They have projected themselves over thousands of miles of land and water and are here with us tonight in spirit, giving you their greetings. They are in

the camps and cantonments in this country. They are on the battleships and transports on the high seas. They are in the base hospitals, and on the firing line "over there," each one in his own way doing his duty by his country in a medical way. They have left their families and their homes; they have left their business interests; they have left the prominent places that they have occupied in their respective communities and have gone to the front, eager and anxious to serve the government when it called; they have left safety and security and are braving disease and death. All hail to the medical profession that has laid its all on the altar of its country. (Applause.)

It is very appropriate and pleasing to us of this state that your annual meeting should be held here this year, for this is our centennial year. All over the broad prairies of this state great preparations are being made to celebrate this event in a befitting manner. But medicine in this state is older than that. The nineteenth century was only 2 years old when in 1802 Dr. George Cadwell left his home in Kentucky, came down the Ohio River and up the Mississippi River, and landed in Madison County, Ill., just opposite the present site of St. Louis. He at once laid the foundation of organized medicine, because we find that this state was only about 4 years old when the first medical society was organized, and a little later on we even find an attempt made to register the physicians and surgeons of the state, foreshadowing our present registration and education. Those old pioneer physicians worked faithfully and hard. They upheld the banner of scientific medicine to the very best of their ability, and to the standard of scientific knowledge which they had at that time. Following this came decade after decade of their worthy successors, always upholding the principles of scientific medicine, upholding the standard of physicians practicing in the state of Illinois; and it can be truly said that at no time was there any state that exceeded the state of Illinois in its organized medical profession.

With the dawning of the twentieth century greater steps were taken; more earnest efforts made, eradicating medical schools that were not up to the standard and purifying these schools by consolidation and elimination. (Applause.)

The latest achievement of the medical profession of this state was to give us through the legislature one of the best medical practice acts found in any state. We find the medical profession always laboring faithfully and hard to uphold and to increase the standards of medical education at all times. These are the men we represent; these men that laid the foundation; these men that built on that foundation and erected this magnificent superstructure; these men, who, guided by high ideals, will carry the banner of organized medicine and put it on the highest pinnacle; and it is not only a possibility, but it is almost an assured probability that these men will, in the near future, bring within the confines of this state the medical center of the universe. (Applause.) These, ladies and gentlemen, are the men who have bid me to say, "You are Welcome." (Applause.)

President Mayo then introduced Dr. Charles E. Humiston, president of the Chicago Medical Society, who delivered the following address:

ADDRESS OF WELCOME BY THE PRESIDENT OF THE CHICAGO MEDICAL SOCIETY

Chicago is proud to be host to such distinguished company. This is the home town of the American Medical Association. There is perhaps no city on this continent that does not in some degree share in this honor, as this greatest of all medical organizations is literally at home everywhere, but it is more at home in Chicago than in any other city.

The American Medical Association ranks high among the resources of the country. It is the one great comprehensive democratic medical body to which every reputable physician may belong and for the most part does belong.

As the individual turns to his physician for relief from the common ills of life, so the nation, in its present time of peril, in confidence is depending vitally on its physicians, on the organized medical profession, the American Medical Association, and in this confidence the nation will not meet disappointment.

Three thousand and more members of the Chicago Medical Society greet you with a cordial welcome. The shades of its former presidents, the immortals, Davis, and Senn, and Fenger, and Murphy, look down with favor on your coming and join with the guiding living spirits of the present, Quine and Billings, in bidding you Godspeed in your noble work.

The Chicago profession trusts you will find its atmosphere conducive to achievement, an atmosphere just now surcharged with every form of activity that should characterize a community wholly awake to its proper part and place in the world's war for decency in which we are now engaged.

Our members are not all here to greet you. Many are now engaged in building and conserving the military strength of our beloved country, and not a few who were thus engaged have already gone beyond the zone of combat to the "undiscovered country from whose bourne no traveler returns." May their sacrifice and their example inspire us to renewed endeavor.

Eminent visitors from afar, from Belgium and from France, from Great Britain and from Italy, from Australia and from far away New Zealand and nearby Canada: Chicago extends to you the right hand of fellowship. We stand by you. We stand with you; and now while the stars in our service flags are turning from blue to gold, we pledge again our allegiance to the cause you represent.

And to the Fellows of the American Medical Association, from the youngest recruit just faring forth, to the illustrious Surgeon-Generals of Public Health, of the Navy, and of the Army: Welcome! Chicago is proud to be host to such distinguished company.

Mr. Bob Dyrenforth sang "Keep the Home Fires Burning," accompanied by the band.

President Mayo in a few felicitous phrases in each instance framed and oriented for the audience the distinguished home and foreign visitors present at the meeting and occupying the stage, who were received with tremendous applause from the large audience. They were, in the order of their presentation, Surgeon-General Gorgas of the Army, Admiral Braisted, Surgeon-General of the Navy, Sir James Mackenzie of London and Scotland, Sir William Arbuthnot Lane, England, Major Rist and Major De Helly of France, and Colonel Bruce, representing Canada.

Hon. Frank O. Lowden, Governor of Illinois, was introduced and said:

ADDRESS BY THE GOVERNOR OF ILLINOIS

Mr. President, Distinguished Representatives of Our Allies and the Champions of Civilization, Members of the Medical Association, and Ladies and Gentlemen: It is a very great honor which you and your organization, Mr. President, have conferred on me tonight. Never, I suppose, in the history of this country has so distinguished a body of the medical profession been gathered together as in this hall tonight. (Applause.)

It is not only an honor which we appreciate, but it is an honor which I covet, because I want to say to the American Medical Association that we of Illinois are under very great obligations to the Association. During the last eighteen months we have been reorganizing the health agencies of our state to the end that we might enlarge their scope and increase their efficiency. In every step we have taken we have had the hearty sympathy and cooperation of the American Medical Association. And when we have sought to elevate the standards of the profession they again have assisted us. I have discovered from time to time that whenever any man in our state thinks he has a constitutional right to practice medicine, provided only he frequented some place, somewhere, with the magical words "medical college" written above the door, that man is against your Association. (Applause.) And again, when some of our citizens who have a license to practice medicine feel that it gives them the right to prey on the helpless and the unfortunates of society, those men have been against the American Medical Association. (Applause.)

It is a great pleasure tonight to admit the obligation under which Illinois, the whole country and the civilized world are to the medical profession of America for the unselfish way in which, forgetful of all selfish interests, it has thrown itself heart and soul into the greatest war the world has ever known. (Applause.) I am here tonight to explain to you why it is that the American physician and surgeon has been so keen to appreciate the significance of this colossal con-

flict. He is different from the German professional man because he has never come under the influence of "kultur." He is still simply under the influence and guided by the old fashioned thing we call civilization. (Applause.) And sometimes I think that we of America, as well as our allies, do not dwell enough on the contribution which our scientific men have made to civilization, and they are likely to take far too much for granted of the claims which the autocratic central powers make. I want to remind you tonight that "kultur"—I do not know whether I can pronounce it right—I hope I may never learn it well enough to practice it—(applause) is based on the theory of an English scientist; the whole doctrine is based on the biologic law of the survival of the fittest. But while that was an Englishman's philosophy and invention, the Germans misapplied it when they brought it into their own country. The Englishman knew that while it was a correct law of biologic existence, the law of the survival of the fittest, they also knew that that law did not respect the moral and spiritual laws of the universe, which in the end control the physical laws. (Applause.) The Germans adopted this law in their philosophy and then announced that not only were the strong alone to survive, but that they were to rule the world. They then discovered that what we call moral laws have become outgrown, and they developed their superman. But all the while the scientists of the rest of the world knew that that law had nothing to do with the law of right and wrong. All the rest of the world knew that the moral forces they understood were the final arbiters of the universe and that therefore the "kultur" of the German is but a materialistic philosophy founded on a half truth, and was possible only by the exclusion of other truths. (Applause.) But to the physicians of England and Scotland, of France and Italy and to American physicians—not the physicians of Germany—but to the physicians of the rest of the world the biologic truth meant to them that it was their duty and only by removing the causes of weakness and disease, by improving the environment, by aiding and tenderly protecting the weak and lifting them up, could they give expression both to the moral laws of the universe and to the biologic laws. That is what they have been doing all these years, while "kultur" applied to simple man destroyed the weak, destroyed the unfortunate, blotted them out of existence, and thus made the superman supreme. That is the difference that has come in the last half century in the development of "kultur" as compared with our own civilization. (Applause.) So tonight it is a great pleasure to be here to honor that noble profession, because not only does it regard the physical, but it tenderly ministers to the mental and the moral. It is busy all the while in devising ways and means by which the weak may become strong, by which those who fall may be made to stand; in other words, the physician of civilization, as contrasted with the physician of "kultur," shares with the minister of religion in the tenderest ministry which comes to the human heart and the human home. (Applause.)

I was very much interested in what was said about the number of physicians who are engaged in this war, and it heartened me more than anything else, because with that thoroughness which has distinguished the Germans they have methodically and precisely rated the value of every man engaged in the service. They found that a physician is the equivalent of 500 men in the ranks. The American Medical Association is going to contribute something like 40,000 of its men to the Army, and a simple calculation will show that the Association will contribute to the war the equivalent of 20,000,000 men. (Laughter and applause.) If these men are directed by the genius of General Gorgas we know what the results will be, because this is not the first enemy that General Gorgas has met. (Applause.) I refer to his work on the Panama Canal. His enemy there was not Germans, but mosquitoes, but they are very much alike in many respects. (Applause.) They have the same notions precisely of the rules of civilized warfare. And the mosquito is no enemy to trifle with. The mosquito in the past in Panama succeeded in doing what the German armies have not done in four years, and that is that the mosquitoes of Panama drove the French out, but the French so far have held the German armies. (Applause.) And when I speak of France it is always reverently. The great masters of French romance have delighted the world for generations with their marvelous creations; but not one of her great masters of romance has ever written pages one-twentieth as thrilling as her soldiers in the field have written in fact during the last four years. (Applause.)

And now another difference between the civilization of the allies and the "kultur" of the central empires: It is true that "efficiency" is the word that is oftenest on our enemy's lips, and it must be admitted that they appropriate the inventions and discoveries of other countries with consummate skill and with fine results. But after all it is the free countries, it is France and England and Italy and America that have made these discoveries. I read this evening that smallpox had broken out in the Krupp works, and today they are vaccinating these men. They are vaccinating their population, not with anything that they discovered, but because of the discovery of a great English physician, Sir William Jenner. And the anesthetics with which Germany soothes her wounded and dying soldiers were not the discovery of German scientists, they were the discovery of American scientists. Again, the only thing that has enabled them to keep up this war so long was another discovery of the modern antiseptic treatment of wounds, and that again was not found by German "kultur," but was the discovery of an English physician and scientist (Applause.) And so they have been able for four years to hold the world at bay because of the discoveries which free professional training and genius have given to the world. They have taken these products of civilization and with them they seek to destroy civilization itself.

I read last night, and I read with a good deal of feeling, the statement made by Dr. Esther Lovejoy, a physician who has recently returned from France, that Germany did not take the women who were mothers of two children back to their land or under their care, because they only wanted children and mothers of children with German fathers; and that statement I have no doubt is true and is justified by the "kultur" which they have been preaching for forty years. Because if all that is needed is strong men physically, if in the end the world is to belong to might and might alone, and if "kultur" must be made to spread around the world before the stream is clear, why is it not logical and consistent? If they have the courage of their convictions, the thing to do would be to take the defective, the deformed and the helpless and exterminate them, because in that way they will have a stronger race of men, and they have learned that they cannot impose their "kultur" on foreign races. Just as sure as they win this war Germany will not attempt to convert the people of other races to their "kultur"; they will exterminate the men and reduce the women to slavery in order to make "kultur" triumphant around the earth. That is the logic of the most damnable philosophy that has ever been evolved from the brain of man. The one single notion in the kaiser's savage brain, so deadly to everything in civilization that we hold dear, is this "kultur" which, if they win this war, will overshadow and shock the world. I want to tell you that if they win—and I am speaking with all the seriousness with which I ever spoke in all my life—the superman, the German, will become the superfiend of all the rest of the world. (Applause.)

I saw the other day that our government had discovered circulars of propaganda in Spain to intimidate that nation against entering the war. They gave out a statement of what was done to Belgium, because they said Belgium was foolish enough to fight after she had been beaten; and they recounted all the things they had done to France. They catalogued the spoils they had taken in the war; not simply military spoils, but watches and spoons and other articles of domestic use. I recall that they classified the articles—so many first class watches, etc. That is German thoroughness; that is "kultur" practically at work in the field. And so many spoons. And they closed the list with the statement that they had also captured over 500,000 bottles of champagne. They went on with another list containing the churches and cathedrals they had destroyed; and I could not help but say of that list, "How logical and thorough these wonderful people are; they capture and keep the spoons and the champagne, and they destroy the churches and cathedrals." And why should they not? Every church with its spire pointing heavenward was a rebuke to their materialistic creed, to the people who had plundered for centuries men, women and children who sought sanctuary and quiet and inspiration. Every cathedral that

was standing was an act of reproach to that German god whom they worship and whom they have brought out of the dark German forests of 2,000 years ago. So, if we only know what this war means, we will win it. (Applause.)

We have had dark days, indeed; and I want to say in this presence tonight that the darkest hour to me came a few weeks ago in the thought that the gallant English and the gallant French armies would be separated and destroyed. It was the darkest hour for this reason and for this reason alone: We not only might have lost all; England and France would, too, have lost all—all but honor and the privilege of dying free men rather than to live slaves—and the thing that depressed me was that America was not there with a million men to stand between the heroic English and French armies. While we would have lost no more than they, they would have had the supreme satisfaction of knowing that they had done all they could and those that died had sought an honored grave rather than a cowardly peace. (Applause.)

Now that that danger is past, we still are confronted with dangers many and great. I do not know as I speak what the fate of our allied armies is tonight. It may be, so far as I know, that these horrid huns will reach and seize and despoil Paris. What then? We shall go on. (Applause.) I do not believe they will, but it may be that they should succeed in separating the English from the French; but if they do (which God forbid), and they drive the English forces into the Channel, and if they annihilate the French army before the campaign is over, England, France, Italy and America will still go on. (Cries of "Good," and applause.) Germany may seize the body of France, but never her indomitable soul. We will all go on until justice comes, and until this horror, war, is for all time put to rest. (Applause.) If I have any influence with my people I want to say that not only would these catastrophes not end the war, but even if—which we cannot believe—the German fleet should sail out some night and destroy the allied fleet, we still would go on, because the spirit of France and England and Italy and America still would live. (Applause.) And if Germany under her piratical flag—and I use that term advisedly: she ran up the black flag of the middle ages—if these fleets under the black flag entered the harbor of New York and conquered that beautiful metropolis of the new world, still the spirit of England and France and Italy and America would go on, and I want to say that for myself there is no point that can come, there is no reverse which can be met by our armies, which can conquer us, because we now have, we shall have, and in any crisis that may come we shall fight and die like men. He who would not die like a man rather than live a slave has no place in any of these United States.

Just one word more: You will hear from now on insidious whispers of peace; but listen not. Russia! Russia was seduced by the word, and you know what happened to Russia. Russia at peace with Germany has suffered worse than she ever suffered at war, and so would we, and so would all the world, until a peace can come by victory and victory alone. (Applause.)

When they talk to us of peace with these crimes unrepented, when they talk to us of peace and there is no possible guarantee of peace, let us heed them not. Do you know what I think we shall tell them? I think we shall say, "Go and tell that to the marines," and they know now where the marines are and that the marines will be the American answer to their insolent proposition. (Applause.)

President Mayo said: It is a great honor to be president of this Association, and that honor I feel slipping from me, and feel that it will wholly slip away in about eight minutes.

Before terminating my office, I wish to speak briefly upon some of the phases of the world's topic in its relation to medicine. The part played by medicine has never been recognized as so responsible as it is today. The Medical Department of our Army in surgeons, enlisted men, nurses and aids numbers over one-tenth of the Army. I believe it is conceded as the best organized of any department in France. The work of organization was begun a year before war was declared, and the wonderful results of the work of organized medicine in the protection, prevention of disease, care of wounds and sickness with the salvage has never before been approached even in civilian life.

The peculiar type of the warfare conducted for the past four years has been scientifically dealt with by medicine from every angle, and while spectacular heroics are noted in the Army in small combats and large drives, they are the everyday portion of the medical department as the doctor carries on his routine work.

The National Medical Museum is now a comparatively small institution, barely existing on the meager appropriation of $10,000, lacking in index, supplies and general educational phases. It, however, can be made one of the greatest institutions for medical instruction in the country. Very early as we entered war, the written medical and surgical history of it was planned, and later a committee was formed by the Executive Board of the Council of Defense to develop the tangible medical and surgical records of the war for the National Medical Museum, under the Surgeon-General, the collection of specimens, types of weapons, missiles and the kind of wounds created by them, and the destruction made by each. This committee consists of myself as chairman, Colonel William Welch and Colonel Victor Vaughan as committeemen, with Colonel Owen, the curator of the Museum. The committee appointed Dr. Louis B. Wilson as Foreign Director of the work. There are artists, plaster and wax workers, also moving picture apparatus connected with this historical work representing the care of the soldiers, the prevention of disease, the surgical care of injuries and salvage of our casualties.

It is proposed that in the reorganization of the Museum that the double-headed monsters and curious anomalies of human form will be relegated to an inner room for medical study only, while the wonderful work in sanitation and hygiene, the protection and care of babies, the care of industrial workers will be shown in the main room.

What of the future of medicine in Europe? England has just started her medical schools with a limited number of students after they were closed for four years. France has not yet re-established her medical schools. After the war, is Germany and Austria to again become the European center for medical instruction? It is to be hoped, at least, not until it is earned. We are now raising funds with which to establish a Postgraduate Medical School in Paris under the auspices of an American Board to give the final training to our medical officers when sent to France. It is hoped the school can care for upwards of 1,000 surgeons. A third of the institution would be turned over for the use of France and two-thirds would be placed under the control of the Surgeon-Generals for the period of the war. There would be given the last word in military medicine. At the close of war to be presented to the medicine of France by the medicine of America as a permanent Postgraduate Medical School and headquarters for all nations. It is expected the institution will be connected with several of the larger hospitals and become the coordinating center for development of the National Medical Museum, Research Work, School of Language, etc.

Concerning medicine in our own country, it looms large and never was on such a safe foundation. In Washington, however, it is divided into many bureaus and boards, overlapping in responsibilities and duties. Yet, each is permanent as they are supported by funds or appropriations. The greatest is the Public Health Bureau under the Treasury Department, under Labor is Care and Protection of Industry and Child Welfare, under the Department of the Interior is the Care of the Insane not otherwise provided for and other activities, under Commerce is Census and Statistics, including Mortality Records, under Agriculture are the Pure Foods and Drugs activities, and there are many other smaller boards and bureaus, almost too numerous to mention.

The future goal of medicine, the establishment of a National Bureau of Health, to coordinate and centralize these great problems which so largely govern the health and happiness of our people will surely come, with the aid of the organization of medicine now developed, at the close of the war.

After the singing of America, led by Mr. Bob Dyrenforth, Chairman Mayo in introducing the President Elect said:

I wish to introduce to you one of the great surgeons of this country, a man who is known to us all for his surgical work, but whom we think of possibly more for what he has done in organizing medicine in the advanced position it occupies in this country today. I now present to you your next President, Dr. Arthur Dean Bevan.

Dr. Bevan read his address.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, JUNE 15, 1918

THE FOOD OF THE ARMY

One reads everywhere in the public print about the energy needs of our citizens and about ways in which the requisite calories of food fuel can be adequately supplied with due regard to the economies and sacrifices demanded by the food situation. Little mention is made, on the other hand, of the food problems of the great armies at war or in the course of training. In the minds of an untutored public our soldiers are thought of by many either as fed to satiety with a lavish liberality that is supposed to represent a government's way of gaining fighting results, or as subjected to dietary privations that represent real hardships. Army life, until recently, has been so far removed from the sphere of information of the average civilian that his conjectures of the rationing of groups of men in uniform have had little real experience as a basis.

Interesting official statistics have lately been made available from the Food Division of the Surgeon-General's Office of the War Department by Major Murlin.[1] It appears from these that our troops have the most liberal allowance of food among all the Allies' rations. The United States garrison ration calls for 4,600 calories; indeed, in the so-called modified garrison ration, 4,800 calories are provided. Among the food quota allotted to the British, Canadian, French and Italian troops the highest does not exceed 4,200 calories, the estimated value of the British field and trench ration.

Thanks to the unique food surveys now being made by the Food Division of the newly established Sanitary Corps, the average actual food intake in the training camps has been ascertained with considerable accuracy. The data from eighty-seven messes show a consumption of 4,000 calories a day, thus distributed between the groups of nutrients: proteins, 14 per cent.; fats, 30 per cent.; carbohydrates, 56 per cent. On this diet, supplemented by a certain consumption of food from the camp exchanges, the men, according to Murlin, have gained in weight, on an average, about 9 pounds since entering the training camps.

These figures indicative of an adequate energy allowance, to say the least, for the American soldier under the present regimen, deserve to be compared with statistics in related situations. A study of the dietaries of 110 families has indicated somewhat less than 3,200 calories as the energy allowance estimated on a "per man per day" basis. Of course the food requirement bears an inevitable relationship to the nature of the occupation or muscular activity of the individuals concerned. The American farmer — a worker of average intensity — is usually credited with a need of about 3,500 calories a day. The average actual food consumption gathered from 18,000 observations among munition workers in England, in 1917, was reported as 3,463 calories. There is, accordingly, no occasion to assume that the present ration of our forces in training is not liberal, from the standpoint of its energy content. The same feature of abundance characterizes its content of protein. Murlin's report indicates that whereas the British army allows 1 pound of meat per man per day, the French army ¾ pound, and the Italian army only ½ pound, our allowance is 1½ pounds. However, the actual consumption by our army up to the present time in the camps of this country does not exceed ¾ pound.

Much has been said about the subject of food waste in the camps and cantonments at a time when our civilian population is making great sacrifices in the direction of food economies. There has, undoubtedly, been a modicum of truth and likewise a measure of exaggeration in the statements circulated through hearsay reports. Without condoning any offense in this direction even in the early stages of large army organization — or lack of organization — there is reason to believe that such wanton waste has been reduced to an insignificant point. Conservation is being practiced under the critical supervision of the officers in charge. Not only a system of garbage inspection, but even the examination of the individual's dinner plate has been put into operation.

Even now, after only a few months of actual organization, we have, according to Murlin, the first instance in the history of warfare in which the actual amount of food consumed is estimated directly in the camp and in the field where the troops are operating. It is comforting just now, the nutrition expert of the Surgeon-General's Office reminds us, to remember that the status of the science of nutrition in America is fully equal to its status in the land of our enemies at the beginning of the war. If we fail in the trial that is on us, it will not be for lack of information. If we fail, he adds, to keep our civilian population properly nourished, it will not be because we do not know the functions of food, or because we do not know what foods are suitable. Likewise with the army.

1. Murlin, J. R.: Some Problems of Nutrition in the Army, Science, 1918, **47**, 495.

CORN IN THE WAR TIME DIETARY

In the shortage of wheat, which is likely to remain serious for some time to come, we shall inevitably turn for a substitute to corn, or maize, the cereal that is most abundant in this country. In practice, the admonition to "save the wheat" will be coupled with the inevitable necessity of eating something else. Corn is produced in such large quantities in the United States that only one sixth of the crop need be eaten in order to replace or save one half of the wheat crop. A recent writer[1] has stated that, if consumed as human food, a fifth of the total corn crop, or a third of what is suitable for milling, would set free all the wheat needed for our friends abroad and leave enough corn on the farms for the adequate feeding of all the live stock now on hand.

What are some of the objections urged against corn, both here and among the Allies? The foremost one, perhaps, is that of palatability, a feature associated with the culinary aspects of the diet. There is evidence on hand that the new interest in all win-the-war activities has given an impetus to the improvement of the cookery of corn products. Despite the aversion of the human palate to innovations in diet, it is not at all unlikely that the near future will see corn foods gaining widely in popularity throughout this country, in the southern parts of which they do not need any recommendation even now.

Another objection that has been urged concerns the quality of the protein and the deficiency in the inorganic salt content of corn. These factors might represent a real difficulty if maize formed the sole or even the major portion of the diet, as it sometimes is made to do in the ration of some of the domestic animals. One-sided dietaries, derived from single sources, are likely to prove inadequate in some details; but so long as the admonition to vary the intake and to use well selected supplements is not forgotten, this liability to harm is no greater with corn than with many other single foods. That man cannot live by bread alone is literally true.

Lately there have been reports of digestive disturbances attending the liberal use of corn in the diet. According to Sherman[1] as well as other observers, the exclusion of this difficulty, magnified perhaps by an apprehensive public, lies in proper cooking. Referring to the experiments in the laboratory of food chemistry at Columbia University he says:

> It is evident that corn meal, suitably cooked, can be substituted for corresponding wheat products even to an extent equivalent to the whole of the usual consumption of wheat in the dietaries of those who live largely on bread, without detriment to the nutritive value of the diet. When conditions are unfavorable or the subject is particularly sensitive to a change of food, a considerable substitution of corn for wheat may give rise to some discomfort in digestion; but in the three cases here observed, the nutrition of the body tissues appeared to be as well maintained as when the digestive process was entirely regular. It is confidently believed that suitably cooked corn products can enter into the dietary, even of those not accustomed to their use, in large proportion without any effect whatever on digestion. Nor need the palatability of such a diet suffer when even greater quantities of corn products are introduced in varied forms.

Above all, we need at this time to dispel the fear that corn and pellagra have a direct etiologic interrelationship. To quote Sherman again: If pellagra is due to faulty diet, the fault lies not in the use of corn, but in the fact that the diet contains too little of foods of other types.

1. Sherman, H. C.: Use of Corn (Maize) as Human Food, THE JOURNAL A. M. A., June 1, 1918, p. 1580. Sherman, H. C.; Wheeler, Lucille, and Yates, Anna B.: Experiments on the Nutritive Value of Maize Protein and on the Phosphorus and Calcium Requirements of Healthy Women, Jour. Biol. Chem., 1918, **34**, 383.

FACTORS IN THE REGENERATION OF BLOOD

The factors that determine the regeneration of the blood after hemorrhage have by no means been satisfactorily ascertained. In some types of anemia, obstacles to the maintenance of the integrity of the red corpuscles undoubtedly exist. Hematolysis here plays an important part. In chlorosis the characteristic feature of the blood is the relatively small amount of hemoglobin in proportion to the number of the corpuscles. Apparently the fault lies in defective hematogenesis — in the inadequate manufacture of blood pigment rather than in either a destruction or a deficient formation of corpuscles. A few years ago the favorite hypotheses involved the part taken by iron in the formation of hemoglobin. But persistent lack of blood pigment in many cases certainly is something more than the expression of lack of iron; for iron therapy fails to produce the desired hematopoiesis in many instances.

It would seem most rational, as a preliminary to the attempted unraveling of the secrets of such complex pathologic conditions, to learn first of all what is involved in the more fundamental process of blood regeneration in simple anemia such as exists after uncomplicated hemorrhage. Whipple and Hooper,[1] of the Hooper Foundation for Medical Research at the University of California, have addressed themselves to this problem. As a result, they have ascertained that blood regeneration in dogs after simple anemia of definite grade can be influenced at will by various dietary factors. The curve of blood regeneration on a meat diet is very rapid, a matter of days or a few weeks, while the curve of regeneration on a diet rich in carbohydrates is very slow. In some of the animals on a diet of bread and milk it has required months for complete blood regeneration. Iron in the

1. Hooper, C. W., and Whipple, G. H.: Blood Regeneration After Simple Anaemia, I, Curve of Regeneration Influenced by Dietary Factors, Am. Jour. Physiol., 1918, **45**, 573. Whipple, G. H., and Hooper, C. W.: Blood Regeneration After Simple Anaemia, II, Curve of Regeneration Influenced by Starvation, Sugar, Amino Acids and Other Factors, ibid., 1918, **45**, 576.

form of Blaud's pills, administered daily during the anemia period, had no appreciable effect on it.

Some of the details of the slower regeneration incident to a bread and milk diet are worth recording. The curve of replenished pigment ascended slowly for a short initial period of a few weeks, when the animals lost weight, the hemoglobin fell, and the anemia progressed until they were placed on a meat or mixed diet. In some instances, the number of red blood cells increased very rapidly, and within three or four weeks after the initial bleedings the total number of red cells was even greater than at the beginning of the experiment. The cells, however, were small and fragmented. The percentage of red blood cells as indicated by the hematocrit readings was the same as on the days immediately following the initial bleedings. In other words, the increase in red cells was only relative, owing to the development of small and fragmented forms. Strangely enough, in starvation a small initial degree of repair may be observed; likewise when sugar alone is fed. This observation that animals will form hemoglobin and red corpuscles when they are receiving no nitrogen by mouth is noteworthy. Obviously some breaking down of tissue protein must take place at such periods. The pigment formation appears to be more extensive in the starving animals, in which, of course, the protein catabolism is most extensive. Whipple and Hooper, therefore, venture the hypothesis that the body conserves certain substances from this body protein autolysis and uses them over again to construct red cells.

Equally striking are the results obtained with different types of protein in the diet. One "incomplete" protein — the gliadin of wheat — influences the curve of pigment regeneration no more than sugar feeding, and is associated with only minor fluctuations in the pigment volume. Four or five weeks of gliadin feeding may show the pigment volume at the same level as at the start. On the other hand, another protein, gelatin, which lacks several amino-acid groups, has a pronounced effect on the curve of pigment regeneration and red cell formation. Gelatin added to a sugar diet will usually cause a sharp rise in the curve of pigment regeneration. This rise is not as marked as after meat feeding. It usually reaches its maximum after from two to four weeks, and then may show a fall coincident with malnutrition, which may develop after prolonged gelatin feeding. Gelatin combined with cracker meal and lard may show a complete regeneration to normal within three weeks. The California investigators have been unable to demonstrate that any amino-acid or group of such protein derivatives is the single essential factor in this reaction that determines the curve of pigment construction and regeneration of the red cells. It seems very probable to them that several diet factors are concerned — as well as body conservation of certain elements of protein catabolism.

Whipple and Hooper regard it as suggestive that a meat diet gives a maximum hemoglobin production and a minimum bile pigment secretion in the same bile fistula dog. Also, a bread and milk diet gives a minimum hemoglobin production and a maximum secretion of bile pigment. We are left by the investigators with this hypothesis: Some substance in meat enables the body to conserve or fix and reconstruct certain substances resulting from tissue catabolism. The amount of body protein autolysis or catabolism certainly is an important factor. There is a constant wastage of pigment substance (bile pigment) and a uniform construction of pigment substance in the body even during starvation. The products of protein catabolism in the body as well as dietary factors contribute to the steady construction of body pigment, especially hemoglobin.

GLYCURESIS VERSUS GLYCOSURIA

The average normal person ingests several hundred grams of digestible carbohydrate every day. Whether in the form of sugars, dextrins or starches this quota is utilized quite perfectly; at any rate it leaves the alimentary tract and disappears in the processes of metabolism. Glucose is always circulating in the blood stream. It has long been recognized that traces of sugar or sugar-like reducing substances occur in the excreta of healthy persons. They can be detected by refined methods of examination and have in part been identified as glucose. Hence one reads in textbooks that "the kidney is not a perfect filter, and small amounts of glucose can penetrate it. The appearance of enough dextrose to give a precipitate of cuprous oxid in the Fehling test is abnormal."[1]

Stanley Benedict[2] and his collaborators at the Cornell University Medical College, New York City, working in cooperation with the Harriman Research Laboratory at the Roosevelt Hospital, have pointed out anew that the factors lessening the delicacy of the copper tests for sugar in the urine are probably numerous. By improving the current methods of analytic examination, they believe that it is possible to estimate sugar in the urine in extremely small concentrations—in hundredths or even thousandths per cent. The carbohydrate is alleged to be of more than one sort, part of it being unfermentable by yeast. The improved technic may show an average daily elimination of "sugar" amounting to 1 gm. under ordinary conditions of mixed diet. It may undergo variations as wide as 100 per cent. or more in absolute amount

1. Mathews, A. P.: Physiological Chemistry, 1915, p. 753.
2. Benedict, S. R., and Osterberg, E.: A Method for the Determination of Sugar in Normal Urine, Jour. Biol. Chem., 1918, **34**, 195; Studies in Carbohydrate Metabolism, I, A Preliminary Report on the Sugar Elimination in the Urine of the Normal Dog, ibid., p. 209. Benedict, S. R.; Osterberg, E., and Neuwirth, I, Studies in Carbohydrate Metabolism, II, A Study of the Urinary Sugar Excretion in Two Normal Men, ibid., p. 217.

per hour, and in percentage in the urine. Most of these variations would wholly escape detection by qualitative methods.

In view of the known facts, Benedict urges the abolition of the term "glycosuria." "This word," he says, "was not created by the mind of man, but by the inefficiency of the copper tests. Glycosuria implies a sudden point at which sugar appears in the urine. Since there is no such point, the term glycosuria is without special significance and is misleading." Consequently the term "glycuresis," representing an increase rather than a new appearance of sugar in the urine, is proposed.

If we are to emphasize the continual existence of a glycosuria in man, what is to be said of the so-called tolerance for sugar? Assuredly there has been little agreement on this phenomenon in the past. The "tolerance" of human individuals for glucose on an empty stomach is commonly placed at about 150 gm. Taylor and Hulton[3] reported practically no limit to the tolerance for orally administered glucose in human subjects. Myers[4] found glycosuria following the ingestion of 75 gm. of glucose in a normal subject. According to the newer observations of Benedict and his co-workers, there is no absolute tolerance for carbohydrate except during the fasting state. Here it may reach an upper limit of 50 gm. of glucose; but feeding with either meat or a carbohydrate diet causes an increase in the sugar elimination.

The fact, Benedict concludes, that foods, even when free from any sugar, cause marked glycuresis must serve to emphasize the narrow margin of absolute sugar tolerance even in the normal individual. A certain portion of the sugar from starch or even from meat taken at each meal is waste sugar. This is not due to simple leakage through the kidney. The glycuresis is independent of urinary volume and follows a definite course, reaching a minimum during the fasting hours. Carbohydrate stands apart from other foodstuffs in that the normal organism fails to utilize it completely, even in physiologic quantities. Therefore, Benedict adds, the unique disease, diabetes, springs from seed ever present in the normal organism. Nevertheless, we may perhaps be justified in warning the reader against undue apprehension at first consideration on this score. With an intake of even 500 gm. or more of carbohydrate per day, the wastage of an equal number of milligrams of sugar, if it actually is such, is not a serious indictment of the efficiency of the organism. Meanwhile we shall await with interest the expansion of these observations to a degree where the statistics on persons of unquestionable health and normality will give a more permanent basis for clinical and therapeutic deductions.

3. Taylor, A. E., and Hulton, F.: Jour. Biol. Chem., 1916, **25**, 173.
4. Myers, V. C.: Proc. Soc. Exper. Biol. and Med., 1915-1916, 13, 178.

Current Comment

THE CHICAGO SESSION

As our forms close, Wednesday morning, there is every indication that the 1918 session of the American Medical Association will be a success in every way. Even the attendance is proving to be far greater than war conditions would warrant one in expecting. The fact that over 20,000 physicians are in active service and the recent increase in railroad rates naturally have interfered with the attendance. In spite of these things, however, the registration for the first two days was 3,552,[1] which was within 231 of being as large as the registration last year, in New York, for the first two days. The Opening Meeting indicated the spirit that is prevailing at this session—a spirit of patriotism, of loyalty, of self-sacrifice. Never before has there been such a large attendance at an Opening Session. There was added enthusiasm and patriotism on account of the presence of the band of the Fort Riley Medical Officers Training Camp, of the two hundred medical officers of the Army and Navy, from that and other camps, who marched on the stage in double file, and of the distinguished medical officers of the allied nations who occupied the foreground. The stirring addresses of the Opening Meeting will be found elsewhere in this issue. The medical military features of the meeting, many of them provided especially by the Surgeon-General's Office, include a late model motor ambulance with spare parts trailer, which drove overland to the meeting from the U. S. Army Motor Ambulance Supply Depot, Louisville, Ky.; the flight to the meeting by a physician aviator, Major H. M. Strong, Post Surgeon at Rantoul, Ill.; the exhibition of the Fort Riley Sanitary School, including over fifty-five models of all of the various types of sanitary devices in use at Army posts and camps; a continuous military motion picture show, with motion pictures issued under the authority of the Commission on Training Camp Activities and the Surgeon-General's Office; and a military medical headquarters in which advice is being given relative to enlistment in the service of the Army and Navy, and in which numerous recruits for the Medical Reserve Corps were enlisted. These and other features too numerous to mention are making the sixty-ninth annual session a historic medical military patriotic meeting.

NECESSITY FOR CARE IN ADMINISTERING ARSPHENAMIN

It is evident that more than the ordinary number of severe reactions from arsphenamin have occurred lately, or that more are coming to light. There are certainly indications that there is need for especial care in its administration at the present time. There is a tendency in some places to make the treatment with it very intensive, even giving daily doses for several successive days. About 50 per cent. of a dose of arsphenamin is excreted during the first three days after intravenous administration, and the remaining part is excreted with diminishing rapidity over a

1. At 12 noon Wednesday the registration had reached 4,595.

longer time. The daily intensive use of the drug therefore means that it accumulates rapidly in the system; in view of the fact that some of the most serious accidents develop only after several days, the question may justly be raised whether this intensive use is not exposing the patient to added risk, which should not now be taken. It is true that many serious reactions lately reported occurred immediately, indicating also that it would be wise to begin with a small dose — say 0.3 gram. Boiling arsphenamin is also an occasional practice. This should be discontinued. The brand "arsenobenzol" is of difficult solubility, but this brand can be safely dissolved in hot water. The more soluble brands do not stand heat well and should be dissolved in water at room temperature. In general, practitioners should be more than ordinarily cautious in the use of arsphenamin at the present time. We are working under great pressure in medicine as in other lines. This is not the time to be careless of risks in the intensive use of this drug or indifferent to the possibilities of its being made toxic by boiling or other incautious manipulations.

MORPHIN AND REACTION TIME

The announcement of a new journal, *Psychobiology*,[1] states that it is established for "the publication of research bearing on the interconnection of mental and physiological functions. It will include in its volumes, therefore, not only investigations of what is sometimes called 'psychological physiology,' but also investigations in pharmacology, physiology, anatomy, neurology, and psychiatry in so far as the results of these investigations have explicit bearing on problems of mental life, or mental factors are included in the essential conditions of the investigation." The first number illustrates the relation of psychology to pharmacology in a research on the effect of some opium alkaloids on the psychologic reaction time.[2] The effects of alcohol and alcoholic beverages on psychic functions have been investigated frequently; some attention has likewise been paid to coffee and tea and the caffein that they contain. In connection with such commonly used drugs it is often asked whether they really stimulate in the true sense of the word, or, in refined analysis, are they merely found to depress or inhibit? In the case of morphin alone or in combination with other opium alkaloids, Macht and Isaacs[2] of John Hopkins University have found that the answer depends on the dose used. In man, after small doses of morphin, there is generally a primary stage of stimulation or quickened reaction time; this may or may not be followed by a secondary stage of depression, as indicated by narcosis and prolongation of the reaction time. After large doses of morphin, the primary stimulation stage is very short and may be overlooked, whereas the secondary or stage of depression is predominant. The small doses, which gave a distinct primary stimulation, were from 4 to 6 mg. of morphin. The ordinary therapeutic dose of from 8 to 15 mg. (1/8 to 1/4 grain) is reported to be usually too large to make the quickened reaction in normal persons very noticeable; and therefore it seems to have been overlooked. It is the opinion of Macht and Isaacs that the primary stage of quickening or stimulation probably corresponds to the stage of euphoria or well-being, so well known to the pharmacologist, which occurs after small doses of opiates. It is this sense of well-being, they add, which probably is responsible in a great measure for the greater accuracy in mathematical calculations which they tested, especially in subjects with a nervous temperament, since the narcotic action of the drugs is just sufficient to "take the edge out" of the subject's anxiety.

1. Psychobiology, a journal devoted to the field common to psychology and the biologic sciences, edited by Knight Dunlap, in association with J. J. Abel, W. B. Cannon, R. Dodge, S. I. Franz, H. S. Jennings and G. H. Parker, Baltimore, Williams and Wilkins Company.

2. Macht, D. I., and Isaacs, S.: Action of Some Opium Alkaloids on the Psychological Reaction Time, Psychobiology, 1917, **1**, 19.

Medical Mobilization and the War

The Smith Bill Passes the House

The Smith bill for vocational rehabilitation which passed the Senate recently, as described in THE JOURNAL for May 11, passed the House of Representatives on Monday, June 10.

Honorary Degree Awarded Surgeon-General Gorgas

The honorary degree of doctor of laws was conferred on Surg.-Gen. William C. Gorgas by the New York University and the Bellevue Hospital Medical College, of which Surgeon-General Gorgas is a graduate, at a special meeting in New York on June 5. In an address to the audience he contrasted the methods of military surgery of fifty years ago with those of today; he also stated that the general practitioner, skilled in all fields of medicine—the one who can do anything necessary for the health of the soldier—is the one most urgently needed by the Army.

Personnel of the Medical Department

For the week ending June 7, 1918, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 868, including 1 major-general, 65 colonels, 110 lieutenant-colonels, 298 majors and 395 lieutenants.

MEDICAL RESERVE CORPS: 19,358, including 1,380 majors, 5,119 captains and 12,859 lieutenants. On active duty: 17,474, including 1,297 majors, 4,799 captains and 11,378 lieutenants.

MEDICAL CORPS, NATIONAL GUARD: 1,297, including 19 lieutenant-colonels, 255 majors, 181 captains and 744 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 157, including 8 brigadier-generals, 18 colonels, 123 lieutenant-colonels and 8 majors.

The discharges to date are:

Causes	Number M.R.C.	Number M.C.N.G.
Physical disability	671	52
Inaptitude	265	20
Other branches of service	363	72
Resignations	140	33
Domestic troubles	59	0
Needed by community	50	0
Deaths	81	5
Dismissals	10	3
Duty completed	1	0
No reasons given	14	0
	1,654	185

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

From Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending May 31, 1918

1. ANNUAL ADMISSION RATE PER 1,000 (disease only):

		Last Week
All Troops	974.5	1,068.1
Divisional Camps	757.8	764.5
Cantonments	1,098	1,200.9
Departmental and other Troops	979.4	1,109.1

2. NONEFFECTIVE RATE PER 1,000 ON DAY OF REPORT:		
All Troops	36.8	39.8
Divisional Camps	31.7	33.4
Cantonments	43.1	46.4
Departmental and other Troops	32.7	35.8
3. ANNUAL DEATH RATE PER 1,000 (disease only):		
All Troops	4.01	5.7
Divisional Camps	2.5	1.9
Cantonments	6.0	9.0
Departmental and other Troops	2.7	4.1

NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING MAY 31, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal: Total	Venereal: New infections	Measles	Meningitis	Scarlet Fever	Deaths	Annual Admission Rate per 1,000 (Disease Only)	Noneffective per 1,000
Beauregard	...	4	15	84	3	...	1	..	3	1,073.3	44.3
Bowie	1	..	2	62	59	...	..	..	2	754.8	25.8
Cody	1	..	..	6	...	1	..	..	0	266.6	16.0
Doniphan	4	..	3	21	...	...	..	1	1	1,472.4	53.8
Fremont	17	1	..	10	4	19	1	1	3	839.6	34.0
Hancock	1	..	..	43	...	1	..	..	0	851.4	38.2
Kearny	2	..	..	4	...	9	..	1	1	433.5	22.6
Logan	1	..	..	20	12	2	..	..	0	387.6	24.5
MacArthur	...	..	..	...	...	...	..	..	0	832.7	33.9
McClellan	1	..	3	59	27	11	..	..	1	786.8	25.2
Sevier	1	..	6	17	9	9	1	..	1	436.3	32.6
Shelby	3	3	4	18	...	3	..	1	2	772.6	32.3
Sheridan	...	..	5	39	...	18	..	5	1	913.3	37.1
Wadsworth	6	..	1	49	...	15	..	..	0	2,236.3	69.4
Wheeler	7	2	6	65	...	...	..	..	4	559.7	24.7
Custer	8	..	..	83	3	9	..	2	3	535.3	21.0
Devens	18	..	..	21	5	16	1	..	2	609.3	39.1
Dix	...	..	1	79	2	11	2	2	2	814.2	32.8
Dodge	15	..	..	82	...	23	2	1	7	1,189.7	67.4
Funston	4	..	1	63	10	10	3	1	7	919.0	56.2
Gordon	8	..	1	194	5	40	1	..	11	1,891.6	61.3
Grant	2	..	..	15	...	13	..	3	4	336.0	16.7
Jackson	11	1	1	276	...	45	2	1	6	1,763.1	57.4
J. E. Johnston	6	..	3	40	...	9	..	..	3	1,047.8	37.8
A. A. Humphreys	2	..	..	21	8	4	2	..	0	622.0	15.9
Lee	1	..	..	804	...	7	..	..	1	2,090.6	91.0
Lewis	5	..	..	271	4	12	1	17	1	1,063.3	32.1
Meade	4	..	..	21	16	6	..	..	3	862.0	27.7
Pike	11	1	13	59	7	7	2	..	7	1,377.0	54.3
Sherman	2	..	..	94	...	4	..	..	0	1,001.4	53.8
Taylor	...	..	..	76	7	32	2	..	3	979.7	47.7
Travis	15	5	11	56	1	34	..	1	4	1,499.0	39.5
Upton	...	..	..	261	12	1	..	..	3	836.5	34.8
Northeastern Dept.	...	..	..	43	32	...	..	..	1	858.6	28.4
Eastern Dept.	3	..	4	163	100	16	..	2	5	785.4	20.0
Southeastern Dept.	1	..	5	121	95	3	..	..	3	1,109.7	33.7
Central Dept.	7	..	..	114	69	15	..	8	1	1,384.0	44.8
Southern Dept.	7	2	8	237	31	11	..	2	7	1,250.6	38.9
Western Dept.	3	..	1	54	22	9	..	6	5	785.8	22.3
Aviation S. C.	7	16	2	127	17	17	..	6	10	1,009.7	27.8
Alcatraz, D. B.	...	..	..	...	...	...	..	..	0	626.6	15.0
Columbus Bks.	1	..	..	27	1	1	..	..	0	875.2	23.9
Edgewood Arsenal	1	..	..	...	...	...	..	..	0	513.1	8.9
El Paso	...	..	..	...	...	...	..	..	0	400.8	17.3
Hoboken	6	..	6	105	15	17	1	12	2	532.4	32.0
Holabird	...	..	..	...	...	1	..	..	0	218.6	1.2
Jefferson Barracks	3	..	..	154	1	7	..	..	1	1,543.9	88.3
Leavenworth, D. B.	1	..	..	2	...	...	..	..	0	809.7	34.2
Fort Logan	1	..	..	19	3	1	..	5	0	3,407.5	75.6
Fort McDowell	...	..	2	30	...	1	..	1	0	1,713.7	84.6
Newport News	7	..	5	333	16	22	1	1	5	1,169.6	47.6
Raritan	...	..	..	...	...	1	..	..	0	502.6	19.3
Fort Slocum	...	..	..	18	1	1	..	..	0	850.7	35.2
Springfield Arm.	...	..	..	...	...	...	..	..	0	1,100.5	10.6
Fort Thomas	...	..	..	12	...	5	..	..	1	1,663.8	55.8
Watervliet	...	..	..	...	...	...	..	..	0	319.0	36.8
West Point	...	..	..	1	...	...	..	..	0	384.7	8.0
Total	205	35	109	4,573	597	499	23	80	127	974.5	36.8

ANNUAL RATE PER 1,000 FOR SPECIAL DISEASES

	All Troops in U. S., Week Ending May 31, 1918	Departmental and Other Troops, Week Ending May 31, 1918	Divisional Camps, Week Ending May 31, 1918	Cantonments, Week Ending May 31, 1918	Expeditionary Forces, Week Ending May 23, 1918
Pneumonia	7.9	5.27	7.5	10.3	20.8
Dysentery	1.35	1.97	1.7	0.64	1.7
Malaria	4.2	3.6	7.5	2.85	0.77
Venereal	174.6	171.5	83.0	232.0	75.4
Paratyphoid	0.0	0.0	0.0	0.0	0.67
Typhoid	0.08	0.1	0.0	0.09	0.19
Measles	19.2	14.0	14.7	26.0	9.7
Meningitis	0.88	0.2	0.5	1.65	1.1
Scarlet fever	3.08	4.7	1.5	2.58	3.0

COMMISSIONS ACCEPTED

ARIZONA
O. S. PHILLIPS, Fort Defiance

ARKANSAS
J. H. M. HARDY, Malvern

CALIFORNIA
C. STEIN, Bellflower
C. A. SHEPPARD, Needles
W. A. BAYLEY, Los Angeles
D. D. LUCEY, Los Angeles
J. M. SEVERSON, Los Angeles
E. H. JORDAN, Tecate

COLORADO
W. P. HARLOW, Boulder

CONNECTICUT
H. G. JARVIS, Hartford
L. C. WHITING, New Haven
E. H. J. HENNESSY, Stratford

DISTRICT OF COLUMBIA
R. M. CHAPMAN, Washington

GEORGIA
S. A. CLARK, Eatonton
O. S. COFER, Smyrna

ILLINOIS
P. E. GREENLEAF, Bloomington
J. E. ARNOLD, Chicago
H. N. CHAMBERLAIN, Chicago
F. L. FORTELKA, Chicago
T. H. RENN, Chicago
H. W. TRAUB, Chicago
S. F. WHISTLER, Loami

INDIANA
G. M. COOK, Mooresville

IOWA
J. A. HULL, Ottumwa
W. M. NESBIT, Waterloo

KANSAS
C. A. McGUIRE, Topeka

KENTUCKY
D. B. ROACH, Cadiz
W. M. EWING, Cave City
C. T. WILFONG, Louisville
G. L. THOMPSON, Lovelaceville

LOUISIANA
T. A. COMBIE, Hohnville
B. R. HENGER, New Orleans
H. P. JONES, New Orleans
C. G. SALLAS, Thibodaux

MAINE
J. R. HAMEL, Portland

MARYLAND
J. E. BURNS, Baltimore
R. V. HOFFMAN, Baltimore
L. A. M. KRAUSE, Baltimore
L. L. SMITH, Baltimore
G. B. LYNCH, Hillsdale
F. H. CHARLES, Midland
G. W. BEACH, State Sanatorium

MASSACHUSETTS
A. KLEIN, Boston
H. A. JOHNSON, Lynn
I. F. ARMSTRONG, Marlborough
W. A. MACINTYRE, Worcester

MICHIGAN
I. H. ROCK, Detroit
B. H. VAN LEUVEN, Petoskey

MINNESOTA
W. H. EATON, Duluth

MISSISSIPPI
T. Y. FLEMING, Minter City

MISSOURI
U. P. G. HAW, Benton
A. M. UNDERWOOD, Holstein
P. O. HURFORD, St. Louis
C. A. LEAVY, St. Louis

MONTANA
A. N. J. DOLAN, Great Falls
J. L. TREACY, Helena

NEW HAMPSHIRE
C. F. NUTTER, Nashua

NEW JERSEY
H. M. REILLY, Summit
C. B. BORN, West Hoboken

NEW MEXICO
F. A. DILLON, Clovis

NEW YORK
J. L. BENDELL, Albany
H. S. BONTECOU, Beacon
W. B. EBERLING, Brooklyn
R. A. EDSON, Buffalo
F. H. CARBER, Forest Hills
C. H. BRUSH, Kings Park
W. H. SANFORD, Kings Park
T. P. BERENS, New York City
A. A. BERSIN, New York City
J. GOLDSTONE, New York City
T. A. KENYON, New York City
A. G. LANGMANN, New York City
P. J. MANHEIM, New York City
J. S. RICHARDS, Randall's Island
W. F. PLUMLEY, Rochester
A. C. SILVERMAN, Syracuse
M. J. J. COLUCCI, Yonkers

NORTH CAROLINA
J. B. BULLITT, Chapel Hill

OHIO
E. P. KENNEDY, Cleveland
F. FLETCHER, Columbus
R. B. STEVENSON, Columbus

OREGON
F. P. FIREY, Portland

PENNSYLVANIA
E. M. BLEW, Allentown
S. H. HOLLAND, Industry
H. M. OSTRUM, Philadelphia
K. EMMERLING, Pittsburgh
W. R. CAMPBELL, Smithfield
R. R. WHITTAKER, Williamsburg

SOUTH CAROLINA
C. B. MILLS, Cross Hill

SOUTH DAKOTA
A. F. GROVE, Dell Rapids

TENNESSEE
R. E. GARRETT, Dixon Springs
J. D. CARPENTER, Lavinia
M. L. BLACK, Wind Rock

TEXAS
L. E. HASTINGS, Dallas
W. E. VANDEVERE, El Paso
M. E. HASTINGS, Galveston
B. A. SWINNEY, JR., Newton
F. A. ALLIN, San Antonio
H. P. CALMES, San Antonio
N. M. KENNEY, San Antonio
R. A. ROBERTS, San Antonio
I. R. DESTEIGNER, San Marcas
E. B. BUCHANAN, Texarkana
F. I. FIELD, Waco

UTAH
C. E. WARDLEIGH, Ogden

VERMONT
D. R. BROWN, Lyndonville
C. H. SMITH, Rupert
G. G. HALL, South Woodbury

VIRGINIA
J. M. HOLLOWAY, Port Royal

WASHINGTON
M. J. LACEY, Auburn
H. S. JUDD, Tacoma

WEST VIRGINIA
S. L. BOSSARD, Belleville
O. F. COVERT, Moundsville
C. DENHAM, Weston

WISCONSIN
S. E. GAVIN, Fond du Lac
S. R. MITCHELL, Milwaukee

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp A. A. Humphreys, Accotink, Va., to examine the troops for cardiovascular diseases, from Fort Oglethorpe, Lieut. HENRY C. HARRIS, Birmingham.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. ELDRIDGE T. BROWN, Cleveland.

To Fort Barrancas, Fla., for duty, Capt. FRANK P. PETTEY, Albany.

To Walter Reed General Hospital, Takoma Park, D. C., for duty, Lieut. ROBERT R. DIXON, Tuscaloosa.

Arizona

To Fort Riley for duty, from Camp Cody, Lieut. ISAAC L. GARRISON, Phoenix.

Arkansas

To Camp Pike, Little Rock, Ark., for duty, Lieut. JOHN H. M. HARDY, Malvern.

To Portland, Ore., Yeon Building, for duty, Lieut. SAMUEL B. DEGNAN, Little Rock.

California

To Fort Oglethorpe for instruction, Lieut. ARTHUR J. HOLETON, San Diego.

To Fort Sam Houston, Texas, base hospital, Capt. HARRY H. KOONS, Los Angeles.

To Portland, Ore., Yeon Building, for duty, Capt. JOHN G. GRAFFIN, Fallbrook; Lieuts. GILES S. PORTER, Los Angeles; FREDERICK K. LORD, San Francisco.

To report by wire to the commanding general, Western Department, for assignment to duty, Capt. CHARLES STEIN, Bellefiower; Lieuts. DANIEL D. LUCEY, THOMAS A. McINTYRE, Los Angeles.

Colorado

To New Haven, Conn., for duty Capt. WILLIAM P. HARLOW, Boulder.

To report by wire to the commanding general, Central Department, for assignment to duty, Capt. HARVEY R. HALL, La Junta.

The following order has been revoked: *To Fort Logan, Colo.*, for duty, Capt. CHARLES H. FISCHER, Walden.

Connecticut

To Camp Jackson, Columbia, S. C., for duty, Lieuts. GEORGE J. SCHUELE, Bridgeport; E. H. J. HENNESSEY, Stratford.

To Fort Oglethorpe for instruction, Lieut. ELROY W. SMITH, Brookfield.

To New Haven, Conn., for duty, Lieut. LEONARD C. WHITING, New Haven.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Oglethorpe, Lieut. ARTHUR S. GRANT, Hartford.

To New York City, Neurological Institute, for instruction, Lieut. HENRY G. JARVIS, Hartford.

District of Columbia

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Major JOSEPH H. BRYAN, Washington.

To Washington, D. C., St. Elizabeth's Hospital, for intensive training, Lieut. DILLON G. O'NEILL, Washington.

Georgia

To Douglas, Ariz., for duty, from Camp Dix, Capt. WILLIAM G. HUNTER, Augusta.

To Fort McPherson, Ga., for duty, Lieut. HENRY W. SHAW, Augusta.

Idaho

To Hoboken, N. J., for duty, from Camp Dix, Lieut. ELTON B. ROGERS, Winchester.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieuts. CHARLES J. MARTIN, Dwiggs; FRANCIS S. MILLER, Inkom.

Illinois

To Boston, Mass., Harvard Graduate School of Medicine, for instruction from Army Medical School, Lieut. BEVERIDGE H. MOORE, Chicago.

To Camp Colt, Gettysburg, Pa., for duty, Lieuts. MORRIS B. KARATZ, BENJAMIN M. WELIN, Chicago; FRANK L. TOWNSLEY, East Chicago; SENN F. WHISTLER, Laomi.

To Camp Gordon, Atlanta, Ga., for duty, Lieut. GEORGE E. SANDERS, Chicago.

To Camp Grant, Rockford, Ill., base hospital, from Fort Oglethorpe, Capt. ROBERT S. GREGG, Chicago.

To Camp Pike, Little Rock Ark., for duty, Lieuts. MYRON I. INGRAM, WILLIAM R. READ, Chicago.

To Camp Zachary Taylor, Louisville, Ky., base hospital, Lieuts. JAMES E. ARNOLD, HUGO W. TRAUB, Chicago.

To Camp Zachary Taylor, Louisville, Ky., for duty, from Camp Sherman, Lieut. WALTER G. MOHR, Chicago.

To Fort Oglethorpe for instruction, Lieut. ROY GRIFFY, Oblong.

To Jefferson Barracks, Mo., for duty, Lieut. MAX L. FOLK, Elgin.

To New Haven, Conn., for duty, Lieut. ROBERT M. CARPENTER, St. Charles.

To report to the commanding general, Central Department, for duty, Major JOHN A. ROBISON, Chicago.

The following order has been revoked: *To Camp Bowie*, Fort Worth, Texas, for duty from Fort Riley, Lieut. RUSSELL A. HENNESSEY, Chicago.

Indiana

To Camp Sherman, Chillicothe, Ohio, for duty, Lieut. VENICE D. KEISER, Indianapolis.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Clark, Texas, Lieut. EDGAR R. HIATT, Portland.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Oglethorpe, Lieut. CHESTER A. MARSH, Newcastle.

Iowa

To Camp Forrest, Chickamauga Park, Ga., for duty, from Camp Sherman, Capt. HERBERT W. PLUMMER, Lime Springs.

To Camp Hancock, Augusta, Ga., base hospital, Capt. CHARLES B. McGLUMPHY, Iowa City.

To Camp Pike, Little Rock, Ark., for duty, Capt. JAMES A. HULL, Ottumwa; Lieut. BENJAMIN L. MEIGS, Fort Dodge.

To Portland, Ore., Yeon Building, for duty, Lieut. MARTIN L. HOOPER, Indianola; FRANK W. MILLS, Ottumwa; FREDERICK H. GRABER, Stockport; EVERETT E. RICHARDSON, Webster.

Hawaii

To Hawaiian Department for duty, Capts. CHARLES ADAMS, Honolulu; FLETCHER G. SANBORN, Molokai; Lieut. FRANK R. MISSNER, Maui.

Kansas

To Camp Pike, Little Rock, Ark., for duty, Lieuts. SEBREE S. McGINNIS, Dighton; JAMES B. DONNELL, Kingsley.

Kentucky

To Camp A. A. Humphreys, Accotink, Va., to examine the troops for cardiovascular diseases, from Camp Meade, Capt. THOMAS F. MILLER, Glasgow.

To Camp Colt, Gettysburg, Pa., for duty, Lieuts. HARTMAN A. LICHTWARDT, Berea; GEORGE L. THOMPSON, Lovelasville.

To report to the commanding general, Southern Department, for assignment to duty, from Fort Sam Houston, Capt. JETHRA HANCOCK, Louisville.

Louisiana

To Camp Jackson, Columbia, S. C., Base hospital, Lieuts. PANAGIOTIS M. PAPOULACOS, Boston; FREDERICK A. MEAD, Willimansett.

To Camp Jackson, Columbia, S. C., for duty, Lieuts. JOSEPH C. MENENDEZ; JONAS W. ROSENTHAL, New Orleans.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. ALBERT A. SHAPIRA, Boston.

To Fort Bliss, Texas, base hospital, Major HAMILTON P. JONES, New Orleans.

To Fort McPherson, Ga., for temporary duty, Capt. CARLOS G. SALLOS, Thibodaux.

To Fort Riley for duty, from Camp Beauregard, Major JAMES B. GUTHIE, New Orleans; from Camp Cody, Lieut. JAMES E. DYSON, Manilla.

To Hoboken, N. J., for duty, Lieut. GEORGE H. SCHWARTZ, East Boston.

To New Haven, Conn., for duty, Lieut. BEN R. HENINGER, New Orleans.

Maryland

To Camp Jackson, Columbia, S. C., *Camp Hancock*, Augusta, *Camp Wheeler*, Macon, *Camp Gordon*, Atlanta, and *Camp Forrest*, Chickamauga Park, Ga., *Camp McClellan*, Anniston, and *Camp Sheridan*, Montgomery, Ala., *Camp Shelby*, Hattiesburg, Miss., and *Camp Jackson*, Columbia, S. C., for orthopedic instruction, Capt. HENRY P. MAUCK, Baltimore.

To Hoboken, N. J., base hospital, from Camp Meade, Lieut. AUSTIN H. WOOD, Baltimore.

Massachusetts

To Camp Hancock, Augusta, Ga., with the board examining the troops for cardiovascular diseases, from Fort Oglethorpe, Lieut. HARRY A. WALKER, Somerville.

To Hoboken, N. J., for duty, from Camp Meade, Lieut. EVERETT A. MERRILL, Lynn.

To New York City, Cornell Medical College, for instruction in military roentgenology, from Fort Oglethorpe, Lieut. WHITMAN K. COFFIN, West Medford.

Michigan

To Camp Custer, Battle Creek, Mich., base hospital, Lieut. GEORGE W. WILSON, Detroit.

To Camp Jackson, Columbia, S. C., for duty, Lieuts. JOHN H. ROCK, Detroit; BUELL H. VAN LEUVEN, Petoskey.

To Camp Sherman, Chillicothe, Ohio, for duty, Lieut. CHARLES R. DENGLER, Jackson.

To report by wire to the commanding general, Central Department, for assignment to duty, Lieut. ARCHIBALD McKILLOP, Wolverine.

The following order has been revoked: *To Camp Logan*, Houston, Texas, for duty, from Fort Riley, Lieut. OTIS B. MALLOW, Detroit.

Minnesota

To Camp Colt, Gettysburg, Pa., for duty, Lieut. RICHARD N. JONES, Minneapolis.

To Camp Meade, Annapolis Junction, Md., base hospital, from Camp Colt, Capt. JOHN W. LEE, Minneapolis.

To Fort Oglethorpe for instruction, Lieut. HARRY OERTING, Minneapolis.

To Jefferson Barracks, Mo., for duty, from Fort Riley Lieut. LINWOOD M. KEENE, Alexander.

To New Haven, Conn., for duty, Capt. GEORGE W. BEACH, Walker.

To Portland, Ore., Yeon Building, for duty, Lieut. JOSEPH W. LECLERC, LeSueur.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to Camp Upton*, L. I., N. Y., base hospital, Lieut. LESLIE H. REDELINGS, Rochester.

Mississippi

To Camp Jackson, Columbia, S. C., for duty, Lieut. TUCKER T. FLEMING, Minter City.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to his proper station*, from New York City, Major JOHN W. BARKSDALE, Winona.

Missouri

To Camp Bowie, Fort Worth, Texas, as assistant to camp surgeon, from Camp Hancock, Lieut. ROY F. MILLS, Odessa.

To Camp Dodge, Des Moines, Ia., base hospital, Lieut. GEORGE H. MORELAND, Butler.

To Camp Jackson, Columbia, S. C., for duty, Capt. URIEL P. HAW, Benton.

To Fort Riley, base hospital, Lieut. GEORGE W. SMITH, Kansas City.

To Hoboken, N. J., for duty, from Camp Sheridan, Capt. ERNEST G. MARK, Kansas City.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, Capt. PHELPS G. HURFORD, St. Louis.

To Washington, D. C., for duty in the Surgeon-General's Office, from Jefferson Barracks, Major HENRY G. WYER, Kirkwood.

Montana

To Fort Snelling, Minn., for duty, from Camp Grant, Lieut. HERBERT HAYWARD, Darby.

To Hoboken, N. J., for duty, Lieut. Thomas B. Scott, Butte.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. ANDREW K. RESNER, Ronan.

Nebraska

To Camp Meade, Annapolis Junction, Md., base hospital, Capt. HENRY B. LOMERE, Omaha.

Nevada

To Camp Bowie, Fort Worth, Texas, base hospital, from Fort Riley, Lieut. JOHN G. KITCHEN, Mina.

To Portland, Ore., Yeon Building, for duty, Lieut. GEORGE F. POPE Winnemucca.

New Jersey

To Army Medical School for duty, from Rockefeller Institute, Lieut. WALTER W. SCHMIDT, Cliffside.

To Camp Colt, Gettysburg, Pa., for duty, Lieut. CHARLES E. BORN, West Hoboken.

To Fort Des Moines, Ia., base hospital, from Fort Oglethorpe, Lieut. ELMER W. SMITH, Passaic.

To Fort McPherson, Ga., for temporary duty, Lieut. JOHN F. McGOVERN, New Brunswick.

New Mexico

To Camp Cody, Deming, N. M., with the board examining the troops for tuberculosis, Capt. FRED A. DILLON, Clovis.

New York

To Allentown, Pa., for temporary duty, and on completion *to his proper station*, Major PERCY R. TURNURE, New York City.

To Camp A. A. Humphreys, Accotink, Va., with the board examining the troops for cardiovascular diseases, from Fort Oglethorpe, Lieut. JOHN L. BYRNES, Hudson Falls.

To Camp Dix, Wrightstown, N. J., with the board examining the command for nervous and mental diseases, Lieut. CHARLES H. BRUSH, L. I., N. Y.

To Camp Jackson, Columbia, S. C., for duty, Lieut. WILLIAM G. FLICKINGER, Brooklyn.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Capt. WALTER H. SANFORD, Kings Park, L. I.; Lieuts. CHARLES L. WOITZ, Mt. Vernon; ARTHUR H. McFARLAND, New York City.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. DAVID TROPAUER, New York City.

To Fort Oglethorpe for instruction, Lieuts. ABRAHAM RAVICH; HENRY H. BEINFIELD, HENRY L. PILZER, Brooklyn; DOUGLAS F. ROBBINS, Poughkeepsie.

To Fort Oglethorpe for temporary duty, from Fort Riley, Lieut. JOHN F. CURTIN, New York City.

To Hoboken, N. J., base hospital, Lieut. MILTON J. WILSON, Mount Vernon. For duty, Lieuts. GEORGE P. DE TUNCQ, Blackwells Island; JOHN H. ROBERTSON, New York City.

To Hoboken, N. J., for duty, from Camp Dix, Lieut. ADOLPH A. WEISS, New York City.

To New Haven, Conn., for duty, Lieut. MORRIS A. SAGOWITZ, New York City.

To Plattsburg Barracks, N. Y., for inspection and on completion *to his proper station*, Major RICHARD H. HUTCHINGS, Ogdensburg.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School*, for duty, Lieut. ROBERT P. DOBBIE, Buffalo. For instruction in the treatment of infected wounds, and on completion *to Camp Devens*, Ayer, Mass., base hospital, Lieut. WILBUR C. TRAVIS, Northport.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Lieut. CLARENCE F. FOWLER, New York City.

To Williamsbridge, N. Y., for temporary duty, from New York City, Lieut. FREDERICK C. KELLER, New York City.

The following order has been revoked: *To Camp Jackson*, Columbia, S. C., for duty, Lieut. PAUL T. HARPER, Albany.

North Carolina

To Fort Oglethorpe for instruction, Lieut. AUSTIN P. KLUTZ, Maiden.

To New York City, Neurological Institute, for instruction, from Camp Gordon, Lieut. LOUIS N. WEST, Raleigh.

Ohio

To Fort Oglethorpe for instruction, from Camp Kelly, Capt. JOHN C. MILLER, Payne.

Oklahoma

To Camp Dodge, Des Moines, Ia., base hospital, Lieut. WILLIAM B. NEWLON, Tulsa.

To Camp MacArthur, Waco, Texas, for duty, Capt. GREGORY A. WALL, Tulsa.

To San Francisco, Calif., Letterman General Hospital, for temporary duty, Major ROBERT L. MULL, Oklahoma City.

Oregon

To report by wire to the commanding general, Western Department, for assignment to duty, Capt. ERNEST N. CROCKETT, Portland; Lieut. WILLIAM P. CHISHOLM, Gold Hill.

Pennsylvania

To Army Medical School for duty, from Rockefeller Institute, Capt. WILLIAM H. BAILEY, Philadelphia.

To Camp Colt, Gettysburg, Pa., for duty, Lieut. RALPH R. WHITAKER, Williamsburg.

To Camp Jackson, Columbia, S. C., for duty, Lieut. STANLEY H. HOLLAND, Industry.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Lieut. FREDERICK W. KNOLL, Reading.

To Fort Riley for instruction, Lieut. CLARENCE J. McCULLOUGH, Washington.

To Lakewood, N. J., for duty, from Camp Cody, Major WILLIAM H. THOMAS, Philadelphia.

To Mineola, L. I., N. Y., for temporary duty, and on completion *to his proper station*, Major ISAAC H. JONES, Philadelphia.

To Mineola, L. I., N. Y., Signal Corps Aviation School, for duty, Lieut. WILLIAM B. SWARTLEY, Philadelphia.

To New Haven, Conn., for duty, Capt. WILLIAM G. TURNBULL, Cresson; Lieut. JAMES W. WOOD, Chester.

To New York City, for duty, from Camp Zachary Taylor, Lieut. ARCHIE W. DUNN, Philadelphia. Cornell Medical College for instruction in military roentgenology, from Camp Meade, Lieut. CHARLES A. FITZGERALD, Clarion.

To Portland, Ore., Yeon Building, for duty, Lieut. JONATHAN M. MANSFIELD, Clinton.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, Lieut. WILLIAM H. JONES, Shaft.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion to Camp Devens, Ayer, Mass., base hospital, from Camp Forrest, Capt. FREDERICK B. ALLEN, North Wales; for instruction in the treatment of infected wounds, from New York City, Lieut. DAVID B. HAWKINS, Philadelphia.

To report by wire to the commanding general, Eastern Department, for assignment to duty, Capt. WILLIAM S. STEWART, Sagamore.

The following order has been revoked: *To Camp Crane*, Allentown, Pa., base hospital, Lieut. JOHN R. DAVIES, Jr., Philadelphia.

Philippine Islands

To Hoboken, N. J., for duty, from Baltimore, Capt. HENRY W. KENNARD, Manila.

To Philippine Department for duty, Capt. JAMES L. BOOTH, Lieut. JUAN L. PAYSWALL, Manila.

Porto Rico

To Camp Las Casas, San Juan, P. R., for duty, Lieut. RAMON L. RODRIGUEZ, Bayamon.

South Carolina

To report by wire to the commanding general, Southeastern Department, for assignment to duty, Lieut. CHARLES A. McLURKIN, Chester.

Tennessee

To Camp Jackson, Columbia, S. C., for duty, Lieut. MARTIN L. BLACK, Windrock.

To Camp Pike, Little Rock, Ark., for duty, Lieut. RHEA F. GARRETT, Dixon Springs.

To Clemson, S. C., Agricultural College, to make physical examinations and give medical attention to the drafted men enrolled at this institution, from Fort Oglethorpe, Lieut. JAMES M. SMYTH, Camden.

To Fort Barrancas, Fla., for duty, Capt. JAMES H. McCALL, Huntingdon.

To Fort Oglethorpe for duty, from Camp Greene, Capt. BERNARD C. McMAHON, Memphis.

Texas

To Camp MacArthur, Waco, Texas, for duty, Lieuts. WILLIAM P. MEREDITH, JAMES McC. MITCHNOR, Houston; BLUFORD A. SWINNEY, Newton.

To Camp Pike, Little Rock, Ark., for duty, Lieuts. ROBERT A. ROBERTS, San Antonio; JOHN R. DESTEIGUER, San Marcos.

To Camp Travis, Fort Sam Houston, Texas, for duty, Lieut. MARION L. COMPTON, Galveston.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Apache, Capt. ROBERT H. McLEOD, Palestina.

To Fort Logan, Colo., for duty, Lieut. DEWITT G. BURKES, San Antonio.

To report by wire to the commanding general, Southern Department for assignment to duty, from Fort Worth, Lieut. TRUMAN C. TERRELL, Fort Worth.

Utah

To Fort Douglas, Utah, base hospital, from Camp Grant, Lieut. CLARENCE A. NYVALL, Salt Lake City.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. CLAUDE E. WARDLEIGH, Ogden.

Vermont

To Camp Jackson, Columbia, S. C., for duty, Lieut. CLIFTON H. SMITH, West Rupert.

Virginia

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, Lieut. JOSEPH H. HOLLOWAY, Fort Royal.

To Newport News, Va., for duty, from Army Medical School, Lieut. ALBERT P. TRAYNHAM, Richmond.

Washington

To Fort Riley for instruction, Capt. WILLARD G. PALMER, Seattle.

To Portland, Ore., Yeon Building, for duty, Capt. HERMAN S. JUDD, Tacoma; Lieut. CHARLES A. HAUBER, Chewelah.

To San Francisco, Calif., for instruction, and on completion *to Camp Kearny*, Linda Vista, Calif., base hospital, Lieut. BURTON E. FLEMING, McCleary.

To report by wire to the commanding general, Western Department, for assignment to duty, Lieut. MARTIN J. LACEY, Auburn.

West Virginia

To Camp Lee, Petersburg, Va., for duty, Lieut. JOHN C. LAWSON, Logan.

To Fort Oglethorpe for instruction, Lieut. LESLIE E. SAUGHERTY, Davis.

Wisconsin

To Camp Colt, Gettysburg, Pa., for duty, Capt. STEPHEN E. GAVIN, Fond du Lac.

To Camp Grant, Rockford, Ill., base hospital, from Fort Riley, Capt. ALBERT A. AXLEY, Butternut.

To Portland, Ore., Yeon Building, for duty, Capt. ALBERT A. PARKER, Clinton; Lieuts. JOHN C. SCOTT, Marinetta; WORTHINGTON L. RANTZ, Rosholt.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest; such as relate to society activities, new hospitals, education, public health, etc.)

GEORGIA

State Association Meeting.—The sixty-ninth annual meeting of the Medical Association of Georgia was held in Savannah, April 17 to 19, and the following officers were elected: president, Dr. Jarrett W. Palmer, Ailey; vice presidents, Drs. George R. White, Savannah, and Lee B. Clarke, Atlanta, and delegates to the American Medical Association, Drs. Henry H. Martin, Savannah, and Stewart R. Roberts, Atlanta. Atlanta was selected as the next place of meeting.

The Venereal Campaign.—At a recent conference in Atlanta between Prof. C. Wardell Stiles, U. S. P. H. S., and a representative of the state board of health, it was planned to establish a venereal clinic in each of the twelve congressional districts of the state. The regulations provide for a report of every case of venereal disease to be made by number; for the dissemination of information regarding venereal disease; for the examination and investigation of all cases; for the protection of others from infection; for the quarantine of affected persons, and for the prohibition of treatment by druggists. The regulations further declare that the spread of the disease is unlawful and that prostitution will be repressed, and that no physicians shall give a certificate of freedom from venereal disease, and that all records must be kept secret.

Personal.—Dr. R. Holmes Mason has been elected president and Dr. F. F. Jones, secretary, of the Rotary Club of Macon.——Dr. Thomas R. Wright, Augusta, has been reappointed a member of the board of trustees of the Georgia State Sanatorium, Milledgeville.——Dr. D. K. Dowd has been appointed city physician of Atlanta, succeeding Dr. James G. Hall, who is in the military service.——Dr. Charles H. Richardson, Jr., Macon, has been appointed a member of the state board of health, succeeding Dr. Howard J. Williams, deceased.——Dr. James E. Paullin, professor of practice of medicine in Emory University, Atlanta, has been appointed chief of medicine in the Emory Base Hospital, succeeding Major Stewart R. Roberts, who has been appointed commander of the base hospital at Camp Jackson, Greenville, S. C.

IDAHO

Reciprocal Relations Extended.—A letter from Dr. Ray H. Fisher, secretary of the Idaho State Board of Medical Examiners, states that at a meeting held in April, 1918, it was voted to extend the registration of physicians by reciprocity to those who have been licensed by examination in Arizona, California, Colorado, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. Applicants will be eligible for registration, provided the intellectual requirements of these states meet the Idaho board's approval, and provided the applicant's moral and ethical record is above reproach. The reciprocal license fee is $50.

ILLINOIS

Higher Requirements in Illinois.—A letter from the department of registration and education states that after Oct. 15, 1918, no medical college will be recognized as in good standing in Illinois unless it requires for admission two years of work in an approved college of liberal arts or a fully equivalent education.

Diphtheria at Camp.—June 9, four cases of diphtheria were found among the troops of the third company of the first provisional regiment at the college students' training camp at Fort Sheridan. The company barracks were placed under quarantine. Most of the men of this company are from Purdue University and the University of Chicago.

Northwestern Alumni Elect Officers.—At the annual meeting of the Northwestern Medical School Alumni Association held in Chicago, June 10, Major Samuel C. Stanton ('92), M. R. C., U. S. Army, Chicago, was elected president; Dr. Luther J. Osgood ('03), Chicago, secretary-treasurer, and Dr. Horace M. Starkey ('78), Rockford, necrologist. At the smoker that followed the meeting, Col. William N. Bispham, M. C., U. S. Army; Majors Franklin H. Martin and Edmond J. Doering, Lieut.-Com. David S. Hillis, President Thomas F. Holgate of Northwestern University, and Dr. Luther J. Osgood, newly elected secretary of the faculty, were the speakers.

Course for Community Nurses.—According to the Illinois *Health News*, plans have been practically completed to establish in Springfield a two months' emergency graduate course for community nurse. This will be conducted by the state department of health, the state department of public welfare, and the Illinois Tuberculosis Association, with the cooperation of the Chicago School of Civics and Philanthropy, the Elizabeth McCormick Fund, the Chicago Tuberculosis Institute, and other state and city welfare organizations. No fees will be charged. Graduate nurses registered in Illinois, or in their own states, will be eligible to the course. Graduates must agree to engage immediately in public service nursing in Illinois.

Chicago

Venereal Disease Hospital Opened.—The old contagious disease hospital, at West Thirty-Fourth Street and Lawndale Avenue, was opened by the city health department, June 3, for the treatment of women suffering from venereal disease, under the new regulations for the eradication of venereal disease.

Investigation of Irregulars.—The state department of medical registration has taken up the investigation of irregular practitioners in Chicago, and already about fifteen have been required to appear before the board of registration to confirm the correctness of their methods, and their right to practice medicine in the state.

KENTUCKY

Hospital Unit Called.—After a long period of training Dr. Barrow, Base Hospital Unit No. 40, was called, May 25, for active duty in France. The unit was recruited from the central Kentucky towns.

Officers Elected.—The Southwestern Kentucky Medical Association at its meeting at Paducah, May 14, elected the following officers: president, Dr. Benjamin B. Keys, Murray; vice presidents, Drs. Finis M. Travis, Benton, and Stanley Mullins, Wingo; secretary, Dr. Edwin A. Stevens, Mayfield (reelected); treasurer, Dr. Henry G. Reynolds, Paducah. The association will meet again in October at Murray.

Personal.—Dr. Jesse I. Whittenberg, health officer of Jefferson County, has resigned and Dr. Clarence H. Harris has been appointed to succeed him.——Dr. Argus D. Willmoth, Louisville, and Dr. Elijah H. Maggard, Wayland, have been appointed members of the state tuberculosis commission by the governor.——Dr. Arthur M. Barnett, president of the Jefferson County Board of Health, has been appointed jail physician to succeed Dr. Llewellyn P. Spears.——Dr. Vernon Robins, previously bacteriologist of the health department but recently state director of sanitation in Alabama, has been reappointed to the position of city bacteriologist under Health Officer Thomas H. Baker.——Dr. J. E. Stuckey has been urged to accept an appointment as head of a hospital in Panama, Canal Zone.——Dr. William S. Petrie, Fairview, who was recently operated on for a gastric ulcer, is now improving.

MARYLAND

One Hundred and Forty-Three Nurses Qualify.—One hundred and forty-three nurses, representing twenty-one training schools in Maryland, passed the examinations for state registration, held under the direction of the Maryland State Board of Examiners of Nurses at the Medical and Chirurgical Faculty building, Baltimore, May 9 and 10. While the majority of these nurses are still in training, they were admitted to the examinations at an earlier date than usual because of the demand for Red Cross nurses. Since obtaining certificates from the state board, they are eligible for Red Cross work immediately on completion of the courses at their respective training institutions.

Personal.—Sir James Mackenzie of Edinburgh, Scotland, and physician to the London Hospital, and an authority on diseases of the heart; Sir William Arbuthnot Lane, an authority on treatment of fracture and cleft palate, and consulting surgeon of Guy's Hospital, London, and Col. Herbert A. Bruce, Toronto, consulting surgeon to the British armies in France, were in Baltimore during the past week to visit the Johns Hopkins Hospital and other medical institutions.——Dr. William M. Dabney, captain in the American Red Cross organization, has returned to Baltimore from France, where

he has been in charge of a large experimental hospital of the Red Cross.——Capt. Alexander D. McConachie, Baltimore, who is attached to the Medical Reserve Corps, U. S. Army, has arrived in France.——Dr. J. Percy Wade, superintendent of the Spring Grove State Hospital, Catonsville; Dr. Charles G. Hill., Mount Hope Retreat, and Dr. Edward N. Brush, superintendent of the Sheppard and Enoch Pratt Hospital, Towson, attended the annual meeting of the American Medico-Psychological Association in Chicago, last week.—— Dr. Arthur P. Herring, secretary of the State Lunacy Commission of Maryland, was elected secretary of the American Medico-Psychological Association at its recent meeting in Chicago.——Mrs. Agnes C. Hartridge, a Johns Hopkins graduate of 1900 and former superintendent of nurses at the University Hospital, Augusta, Ga., has been placed in charge of the admitting office at the Johns Hopkins Hospital. Mrs. Hartridge takes the place of Dr. William C. Leavenworth, who has taken charge of the dispensary at the Hopkins. The latter succeeds Dr. L. Palmer Holmes, who has entered the Medical Reserve Corps, U. S. Army.——Dr. Cornelius DeWeese, one of the directors of the Laurel Sanitarium, at Laurel, was acquitted by the Circuit Court of Montgomery County of criminal blame in connection with the death of Ambler McManus, who died as a result of injuries sustained when struck by an automobile driven by Dr. DeWeese.

MASSACHUSETTS

Officers Elected.—At the thirty-fifth annual meeting of the American Climatological and Clinical Association, held at Boston, June 6, the following officers were elected: president, Dr. Guy Hinsdale, Hot Springs, Va.; vice presidents, Drs. Joseph H. Pratt, Boston, and Hugh M. Kinghorn, Saranac Lake, N. Y.; secretary-treasurer, Dr. Arthur K. Stone, Boston, and recording secretary, Dr. William D. Robinson, Philadelphia.

Harvard Medical Alumni Association.—The annual meeting of the Harvard Medical Alumni Association will be held this year at the time of the meeting of the Massachusetts Medical Society, Wednesday, June 19, at 2 p. m., in the Boston Medical Library. Reports will be received and officers elected. Graduates of the Harvard Medical School are invited to be present at this meeting and also at the alumni spread at Cambridge on Commencement Day, June 20, at 12 o'clock.

NEW YORK

New York City

Surgeon-General Gorgas Addresses Medical Faculty.—On the afternoon of June 5, Surgeon-General Gorgas delivered an address before the faculty of New York University and Bellevue Hospital Medical College on "The Activities of the Medical Department of the United States Army," at the Carnegie Laboratory of the medical college.

Personal.—Dr. Charles Gilmore Kerley resigned as professor of pediatrics at the New York Polyclinic Medical School and Hospital, and his resignation took effect June 1, 1918.——Drs. George E. Vincent and Livingston Farrand have returned from France, where they have been engaged in antituberculosis work for the Rockefeller Foundation.

Program of War Camp Community Service.—The Rockefeller Foundation has contributed $25,000 as an initial step to make possible a demonstration of a plan of adequate care and entertainment of negro troops in a typical war camp community. In explaining the reasons for the appropriation, the announcement says that while plans have been evolved in all the communities, no carefully developed program has been worked out. The medical departments of the Army and Navy, the state and the federal health service, the Red Cross, the training camps commission, the Y. M. C. A., and similar organizations are to cooperate with the American Social Hygiene Society in the demonstration. More than $135,000 is available for the work.

Women Demand Control of Medical College.—An appeal has been made to the New York Board of Regents by a committee of women physicians and surgeons, who are members of the medical board of the New York Medical College and Hospital for Women, asking that the charter of that institution be revoked and a new charter issued forthwith which will place the institution permanently under the control of women workers. It is claimed that certain men physicians on the board of trustees have violated the provision of the charter, that the institution's functions shall be largely educational, in that they have adopted a resolution abolishing the college and clinic of the institution and dismissing the teaching faculty. It is also contended that the meeting at which these resolutions were adopted was irregular and was held without due notice. The men who passed the resolutions abolishing the college contend that the college and dispensary were being conducted at a loss. The board of regents has promised an early ruling.

Threatened Dissolution of Alliance Between Hospital and University.—The alliance between Columbia University and the Presbyterian Hospital, which was made in 1911, and was to have resulted in the establishment of a great medical center which should combine Columbia College of Physicians and Surgeons and the Presbyterian Hospital into a new institution to be erected on Gun Hill Road in the Bronx, is about to come to an end. The board of managers of the hospital have asked the trustees of the university to join with them in cancelling the agreement. This request came before the board of trustees of Columbia University and was referred to the committees on education and finance of the board of trustees. President Butler has issued a statement declaring that the cooperation which has existed between the hospital and the university has worked admirably and to the advantage of both institutions. The difficulties which have arisen relate solely to the plans for future development. The hospital has been fortunate in raising funds which would defray its part of carrying out the plans for consolidation, whereas all the efforts made by the university to obtain funds to meet its share of the obligation have been futile. It has also been found that the total cost of the amalgamation would far exceed the original estimates of $15,000,000.

PENNSYLVANIA

Philadelphia

Fly Campaign.—Dr. Wilmer Krusen, director of public health and charities, in his weekly bulletin urges methods for combating the fly—the enemy at home. He especially urges that fly traps and fly paper be put in the homes, that foodstuffs be kept under cover, that sinks be kept clean and that all garbage be kept in a tightly covered receptacle.

University Chair Endowed.—A $50,000 bequest to the University of Pennsylvania is included in the will of the late Dr. William C. Goodell. In the event of the estate not equaling the total of the university bequest a trust fund is to be created and a bequest paid from the income in instalments. The money is to be used to endow a chair of gynecology.

Personal.—Dr. Judson Daland has been placed on active duty as consulting physician to the Fourth Naval District, which includes Philadelphia, with the rank of lieutenant-commander.——Raymond M. Trice, Philadelphia, attached to the central medical department, American expeditionary forces, has been awarded the Croix de Guerre for services near Paris during one of the recent air raids.

TENNESSEE

District Association Meetings.—The West Tennessee Medical and Surgical Association held its annual meeting, May 24, and elected the following officers: president, Dr. John Yarbrough, Covington; vice presidents, Drs. John D. Brewer, Newbern, and Hermon Hawkins, Jackson; secretary-treasurer, Dr. R. A. McSwain, Paris, and assistant secretary, Dr. George R. McSwain, Paris. Dyersburg was selected as the next place of meeting.——The forty-eighth semiannual meeting of the Middle Tennessee Medical Association was held in Shelbyville, May 16 and 17. Columbia was designated as the next place of meeting. Dr. Jesse F. Adams, Bradyville, was elected president; Dr. John Witherspoon, Nashville, vice president, and Dr. Milton Tharp, Nashville, secretary-treasurer.

Personal.—Dr. W. H. Brice, Mount Pleasant, is seriously ill at his home, as the result of taking poison by mistake instead of quinin.——Dr. J. B. Bond, superintendent of the Western Hospital, Bolivar, has resigned and will resume practice at Union City.——Drs. Reese Q. Lillard, Lebanon, secretary and executive officer, and Harrison H. Shoulders, assistant secretary and registrar of vital statistics, of the Tennessee State Board of Health, have resigned.——Dr. Olin West, Nashville, has been elected secretary of the state board of health, succeeding Dr. Lillard.——Elmo W. Mitchell, superintendent of the Eastern Hospital for the Insane, Nashville, has resigned and will resume practice at Crossville.——Dr. Christopher C. Carpenter, Fayetteville, has succeeded Dr. Charles L. Goodrich as local railway surgeon.

CANADA

Personal.—Lieut.-Col. John Nisbet Gunn, Calgary, Ont., commanding officer of the 8th Field Ambulance in France, who is home in Toronto on sick leave, has received word by cable that he has been awarded the Distinguished Service Order.——Lieut.-Col. Archibald L. C. Gilday, Montreal, who went overseas as medical officer to a Montreal battalion and was promoted to the rank of commanding officer of a field ambulance, returned to Montreal, June 5, on sick leave. He was wounded just six weeks ago, and it is considered quick work to have a wounded officer returned to Canada in so short a time.——Among those decorated for service, in the King's birthday honor list, is Major Theodore A. Lomer, C. A. M. C., who received the D. S. O. Major Lomer was medical officer of health for Ottawa when he enlisted with the first contingent. He has served in France more than three years. Major Lomer was for a time on the staff of the Montreal General Hospital. He was superintendent of the Alexandra Hospital, Montreal, when he resigned to become medical officer of health for Ottawa.——Capt. Gerald Allison, R. A. M. C., Picton, Ont., has returned to the front after a few weeks' furlough in Canada. Captain Allison has served in Egypt, Gallipoli, India and France.——Lieut.-Col. Harold R. Ker, C. A. M. C., has been ordered to report at Halifax, N. S., under appointment as assistant director of medical services in charge of wounded soldiers from overseas.——Capt. Henry Crassweller, formerly of Windsor, Ont., who has been in active service more than three years, is reported missing. He was with the R. A. M. C. in Egypt, and later on the Saloniki front.

GENERAL

Railway Surgeons Hold Meeting.—At the annual meeting of the Central Georgia Railway Surgeons' Association held in Montgomery, May 16, the following officers were elected: president, Dr. Walter E. Saunders, Arlington, Ga.; vice presidents, Drs. Charles A. Thigpen, Montgomery, Ala., and George L. Alexander, Forsyth, Ga.; secretary-treasurer, Dr. Craig Barrow, Savannah, Ga.

New Section on Medicines.—A commodity section on medicines and medical supplies has been incorporated by the War Industries Board. Lieut.-Col. F. F. Simpson will be chief. The new section will deal with surgical supplies, instruments, dressings, serums, and other hospital and medical supplies, and will cooperate with the work of the chemical division in dealing with fine chemicals, photographic chemicals, etc.

Personal.—Dr. J. Christ O'Day, formerly of Mankato, Minn., and Oil City, Pa., delivered an address at a town mass meeting held, April 21, in Honolulu, urging the establishment of a permanent internment camp in the territory of Hawaii.——Senior Surg. Charles E. Banks, U. S. P. H. S., in charge of the Camp Funston Civil Sanitary District, with headquarters at Manhattan, Kan., has been appointed medical director of the War Risk Insurance Bureau, with headquarters in Washington, D. C.

Antityphoid Inoculations Free.—The Treasury Department authorizes the statement that in order to protect the health of workers and others at a time when the labor of every man possible is needed, the U. S. Public Health Service has been directed to give antityphoid inoculations without charge to all who apply to any of its hospitals or field offices. This will include the territory in the extracantonment zones, U. S. Marine hospitals, etc. Other preventive measures, such as the disposal of excreta, are being vigorously applied.

Army School of Nursing.—The Secretary of War has authorized the Surgeon-General of the Army to establish an army school of nursing with branch training schools in various selected military hospitals throughout the United States. The necessities of the war required the establishment of this training to supplement the present supply of trained graduate nurses. The opening of this course of nursing will give opportunity for patriotic young women to become army nurses. The courses in nursing will conform, as far as possible, to the courses in the civil hospitals, and diplomas will be granted, providing these hospitals remain open long enough to complete the course in accordance with present civil hospital standards.

Optical Industry Organized for War Service.—In compliance with the request of the government for the mobilization of industry for aiding in the prosecution of the war, a meeting of optical manufacturers in New York, May 15, resolved to appoint a war service committee to represent the entire optical industry. A subcommittee of this committee, appointed to report on organization, submitted to the main committee a series of resolutions for adoption pledging the support of the optical manufacturers in securing accurate information with respect to the facilities of the industry; in acting with the priority committee of the war industries board in establishing rules for the distribution of materials, manufacture and transportation; in cooperating with the departments of the government with advice relating to matters affecting the optical industry, and in presenting to the government for consideration all questions relating to the optical industry in which the government is interested.

Bequests and Donations.—The following bequests and donations have recently been announced:

People's Hospital, New York City, $50,000, the proceeds of a benefit theatrical performance.

Long Island College Hospital, Brooklyn, as residuary legatee, $265,044 as its share of the estate of Charles W. West.

Birchard Library, Fremont, Ohio, $2,000, to be used for the purchase of medical books; and for the Sandusky County Medical Society, his medical library, by the will of Dr. Martin Stamm.

Madison, Wis., General Hospital Association, the Clark apartment building, Madison, Wis., valued at about $70,000, by the will of Miss Lucinda W. Rice.

Children's Memorial Hospital, Chicago, $10,000 by the will of Mrs. Potter Palmer.

Harvard Medical School, a donation of $7,500, the income to be used annually to present a gold medal and $500 in cash to the person who may discover in any branch of science means that will result in the greatest good to humanity in connection with the prevention of disease, and the conservation of health, by M. Douglas Flattery.

Michael Reese Hospital, Chicago, $20,000 by the will of Joseph Schaffner.

Fort Wayne, Ind., Lutheran Hospital Association a donation of the property of Dr. Herman Duemling, valued at $8,000 by Dr. Herman A. Duemling.

The clinical building of the Medical College of Georgia, Augusta, $125,000, and for the establishment of a camp for the treatment of tuberculosis, $75,000, by the will of J. B. White, Augusta.

Mailing of Liquids and Oils in Glass.—In Order No. 1490 the Postmaster-General gives revised rules for shipment of admissible liquids and oils not exceeding the limit in weight of fourth class mailing matter, giving the manner in which they shall be packed, etc. Admissible liquids and oils, salves, pastes and other articles easily liquefiable shall be accepted for mailing regardless of the distance, when they conform to the conditions prescribed. The following directions are of interest to physicians: When in strong glass bottles holding 4 ounces or less, the total quantity of liquid shall not exceed 24 ounces. Each bottle shall be wrapped in paper or other absorbent and placed in a box of cardboard or other suitable material and packed in a container made of double-faced corrugated pasteboard of good quality, with tight corners and sealed with tape to prevent escape of liquid, the whole parcel to be securely wrapped with strong paper and secured with twine. Liquids in strong glass bottles holding more than 4 and not more than 16 ounces must be inclosed in a block or tube of metal, wood or papier-mâché, and there must be between the bottle and the block or tube a cushion of cotton, felt or other absorbent. The block or tube must be at least ⅛ inch thick for bottles of 8 ounces or less and at least 3/16 of an inch thick for bottles holding more than 8 ounces. The container must be rendered water-tight by an application of paraffin or other substance to the inside, and must have a screw top, with a washer so that no liquid can escape if the bottle should be broken. Such bottles may also be packed in tight receptacles of wood, metal or waterproof corrugated pasteboard, if surrounded with bran, sawdust or other absorbent in sufficient quantities to absorb all the liquid if the bottle is broken. Larger bottles may also be shipped, if packed in strong boxes surrounded with sawdust or other substance which will prevent breakage, but must be marked "Fragile. This side up," and must be transported outside mail bags.

FOREIGN

Japanese Mission to Study Typhus.—The *Policlinico* reports that a party of Japanese physicians, in charge of Dr. K. Mogi, has arrived in Roumania to study typhus. The party expects to remain eight months for the purpose.

Carnegie Hero Prizes for Civilians.—The *Riforma Medica* relates that among the prizes distributed recently at Rome by the board of the Carnegie Foundation were some to the nuns who have charge of the city hospital at Udine, in recognition of their devotion in remaining at their posts and tending the sick and wounded during the recent bombardment of the hospital.

Scabies at Amsterdam.—Scabies is so prevalent now at Amsterdam that two dispensaries have been arranged and

another is planned to which all the scabies patients are sent. The other members of the family are given treatment also, and the bed and body linen is disinfected. The authorities hope to stamp out the epidemic before the increasing scarcity of sulphur will render treatment more difficult.

Dogs Trained as Guides for the Blind.—The *Hospitalstidende* quotes a German exchange to the effect that an institution was organized in 1917 in Germany to train dogs to serve as guides for the blind. Dr. Bauer is in charge of the work, and he recently exhibited five dogs that had finished their training. They not only serve as guides but warn the blind man they are leading of every obstacle, watch out for anything he may drop, and, in short, it is said, serve as a friend and protector as well as guide.

A New Enslaving Drug.—The *Nederlandsch Tijdschrift* states that the combination of morphin, cocain and caffein which is marketed under the name "trivalin" is sowing addictions broadcast, as the advertisements state that the combination deprives cocain and morphin of their dangerous properties. Müller of Godesberg recently reported that he had had occasion to treat eleven cases of addiction from this drug. The consequences and symptoms are those mainly of cocain poisoning. All the patients had been given the drug first by a physician with the assurance that it was less harmful than the opiates. The odor of valerian about the drug is an advantage as this would deter some from using it.

American Poets' Ophthalmic Ambulance.—The *British Medical Journal* describes the ophthalmic motor ambulance given to the Italian army by the group of American poets. It was designed by Professor Busi of Bologna and Major Balestra, and the whole packs into a trolley of the dimensions required by the railway authorities. It provides a small operating room with wooden walls and roof covered with impermeable canvas, and a waterproof tent mounted on iron frames with a rainproof roof. This forms the reception room and also on occasion a radiologic cabinet and ophthalmoscopic examination room when it is covered inside with black cloth. The *Riforma Medica* states that the ambulance has been completed and has already left for the front in charge of Major Alfonso Neuschuler.

Premiums for Breast Feeding.—The *Nederlandsch Tijdschrift* quotes a Berlin exchange to the effect that the number of women nursing their children nowadays is much above the average before the war. The infant death rate shows a corresponding decline. The authorities ascribe the greater prevalence of breast feeding to the premiums given nursing mothers. Each mother has to apply weekly for the premium and bring the child, and consequently an opportunity is thus afforded for instructing the mother in the care of the child. This combination of premiums and consultations is proving of the greatest advantage in reducing the infant death rate. It is suggested, however, by the *Tijdschrift* that the scarcity of food for the children may have something to do with the increase in breast feeding.

Public Warning Against Venereal Diseases in the Netherlands.—The *Nederlandsch Tijdschrift* gives the text of a circular of about 400 words warning of the dangers of venereal disease for the individual and for the nation, and the importance of early and thorough treatment. It is issued by the Public Health Service of the Netherlands, sanctioned by the minister of the interior, and it is to be made public throughout the country, although it is not mentioned how this is to be done. It is emphasized in the circular that, "generally speaking, there is no danger from the venereal diseases for those who refrain from extra-conjugal sexual relations, but that the danger of contracting venereal disease is greater now than ever before, as the war has brought about unprecedented conditions in our land also, and brought into the country many foreign elements, including many undesirable elements."

Death of Forlanini.—The cable brings word of the death of Dr. Carlo Forlanini of Pavia, the inventor of the method of treating pulmonary tuberculosis with induced pneumothorax, aged 71. Until he reached the age limit he was professor of physiology and clinical medicine at the University of Milan, and was always interested in aerotherapy and medicopneumatic measures. It was in 1894 that he published what he called "The First Attempt to Treat Pulmonary Tuberculosis with Artificial Pneumothorax," and the following year published the "First Case of Monolateral Advanced Pulmonary Tuberculosis Successfully Treated with Artificial Pneumothorax." He has published numbers of works on this and other subjects, notably on venesection in treatment of uremia, on the influence of tobacco, alcohol, morphin and caffein on the arterial circulation in a case of a large gap in the skull, and on thoracentesis with introduction of filtered air (1902).

Discussion of Venereal Diseases in the German Senate.—The *Nederlandsch Tijdschrift* relates that a bill pending in the German Reichstag imposes a penalty of 10,000 marks or a prison term of one year on any who treats venereal disease without being a qualified physician. The promoters of the bill stated that with this penalization the bill must stand or fall. It was adopted in the committee by a vote of eighteen for and seven votes against the measure. In the discussion, one of the members insisted that the present laws against personal injury cover the subject, and that there is no need for further legislation. Another member remarked that many qualified physicians have turned aside from "school medicine," and that the worst forms of advertising were introduced into the world by physicians. He also stated that the working classes have lost confidence in "school medicine" on account of the treatment by the social insurance physicians of the insured, adding, "Qualified physicians are themselves to blame for the resort to the nature healers by such a large part of the populace." (There are said to be 12,000 nature healers in Germany at present.) Another member contended that whether there are ignorant or careless physicians has nothing to do with the bill. "The question is to determine the minimum of knowledge compatible with the treatment of venereal diseases." A penalty of 1,000 marks and prison term of six weeks was demanded for those who, knowing that they have some venereal disease, neglect to have it treated by some qualified physician. After much discussion this measure was adopted except that the fine was reduced to 500 marks and the prison term to four weeks.

SOUTH AND CENTRAL AMERICA, MEXICO AND WEST INDIES

Adulteration of Drugs.—The Public Health Service of Mexico has sent out notices to the governments of the different states warning against three falsified drugs which have been found in the City of Mexico. Pharmacists are warned to be on the lookout. One of the drugs is labeled benzonaphthol, but is merely calcium silicate; it bears the apocryphal label "Riethel." Another is simply acetanilid, labeled cocain chlorid from the Mallinckrodt firm at St. Louis. The third drug thus falsified is euchinin, which consists merely of calcium carbonate and a little quinin sulphate.

Deaths in the Profession Elsewhere.—Dr. **Sanchez Toledo,** a Cuban physician long practicing in Paris, aged 58. He was the representative of Cuba at various international gatherings, and during the present war has been serving in a Red Cross hospital.——Dr. **M. G. Zavala,** professor of obstetrics in the Facultad de Medicina of Mexico, aged 68.

CUBA LETTER

HAVANA, May 26, 1918.

Contagious Diseases in Cuba

One hundred and five cases of typhoid fever have been reported in Havana during the last month. Typhoid vaccine is supplied free of charge in all branches of the board of health department. In the interior of the island, typhoid fever has also shown an increase over the statistics of former months, but this small epidemic is by no means threatening, according to the health authorities.

Malaria does not exist in Havana except when imported from other communities, Oriente and Camagüey, where there are various foci to which the board of health is now attending. Last year, 133 malaria patients died in Oriente, and twenty-eight in Camagüey. Professor Guiteras, director of sanitation of Cuba, has proved that most of those cases were imported with the negro laborers who came to work in the sugar cane fields from Haiti and Jamaica.

The campaign against these two diseases is being carried on conscientiously, and their early control is expected.

Cuban Physicians and Nurses to the Front

The Cuban senate has passed a bill ordering 100 physicians and surgeons to go to lend their services in the Allied hospitals in France.

The Cuban Red Cross has selected twelve nurses, who will be sent to France after a short period of training.

Death of Dr. Sanchez Toledo

Dr. Domingo Sanchez Toledo, a Cuban physician practicing in Paris and a captain in the French medical reserve corps, died in France last month. He was a brother of Dr. Miguel Sanchez Toledo, professor of physiology in the University of Havana.

LONDON LETTER

London, May 14, 1918.

The Outbreak of Acute Infective Ophthalmoplegia

The outbreak of acute infective ophthalmoplegia in London and other places in England has already been described (The Journal, June 1, 1918, p. 1619). Some further particulars may now be given. Against the suggestion that it is the form of food poisoning known as botulism is the fact that a case has been observed in an infant at the breast and another in a vegetarian. Moreover, no one article of food has proved to be responsible. Some cases have simulated meningitis, and in others the suggestion has been made that the cases are poliomyelitis of unusual distribution in the nervous system. The duration of illness has varied from six weeks or longer to a few days. The onset of illness may be sudden or gradual. The one constant symptom is the rapid development of languor and drowsiness. This may be the most pronounced symptom throughout. The patient as a rule does not become completely unconscious. He lies in bed like a log, but is easily aroused. The respirations are increased in number. The pulse is not rapid. There is a moderate amount of pyrexia in the earlier stages. Muscular tremors, especially of the eyeball, are a marked symptom in some cases. Usually there is unilateral or bilateral weakness of muscles supplied by the third, fourth or seventh cranial nerves. Ptosis is very frequent. As a result of the weakness of the facial muscles, the patient's face commonly has a masklike appearance. Constipation is usual. Retention of urine frequently occurs. There is marked dryness of the mouth and throat, and may be some dysphagia. The mouth, as well as the general condition, may simulate uremia or the typhoid condition. Death, which has occurred in a large proportion of the severe cases so far observed, seems to be due to bulbar paralysis.

Ophthalmologists and Public Affairs

At a representative meeting of ophthalmologists at the rooms of the Royal Society of Medicine, it was decided to form a council to take action in matters of ophthalmologic interest in connection with public affairs. In proposing the resolution, Sir Anderson Critchett said it would meet a definite need and would tend to weld the elements of ophthalmology more closely together, as well as making for the welfare of the public. Mr. Richardson Cross seconded, remarking that governments and governing bodies require expert advice in order to be efficient, and that the best experts are those who enjoy the confidence of their colleagues in that special line of practice. Owing to the amalgamation of the journals devoted to ophthalmology into one organ, and the representation on the Ophthalmological Society of the various similar bodies in the kingdom, the profession is now well organized and can present a powerful front on all questions specially concerning it. He instanced ophthalmia neonatorum, navy and army visual standards, visual and lighting requirements in various kinds of industry, organized inquiries concerning the blind, grades on compensation payable according to degrees of visual disability, and so on. Mr. J. B. Lawford, in supporting the resolution, said that the days are rapidly passing when we can afford to ignore scientific discoveries and the new methods based upon them. He believes that more attention will be paid in future to the views of representative bodies, and less to the opinions of individuals, however eminent. The state is now more and more assuming the rôle of parent, and, like other parents, will be all the better for sound advice. He would like to see ophthalmology made a compulsory subject of the medical curriculum, a matter on which we are much behind other civilized countries. At present, a man receiving the minimal qualifying medical diploma can at once take up the practice of ophthalmology; and if the proposed committee should do no more than insist that men should not take up this work without special training, it would fully justify its formation. It was decided that the Council should consist of all the past and present presidents of the Ophthalmological Society of the United Kingdom, and of the Section of Ophthalmology of the Royal Society of Medicine as permanent members, four members nominated annually by the councils of each of these societies, and one representative from the Oxford Ophthalmological Congress.

Physical Deterioration of Boys Under War Conditions

In a letter to the *British Medical Journal*, a physician practicing in a munition area calls attention to the dangers that beset boys between the ages of 14 and 18 (that is, up to the military age) under the present abnormal conditions. Three or four years of absence of paternal control (because their fathers have joined the army), of practically unlimited supplies of money and cigarets, lack of sufficient sleep through frequent cinemas and music halls, and finally, in many cases a tendency to indulgence in alcoholic drinks, must all exact an inevitable toll on the growing boy. In many instances mere boys have become physical and moral wrecks. The trouble can be traced to the high wages, $15 or $20 a week, which these boys earn. For this the government is responsible. At the beginning of the war the obtaining of munitions in sufficient quantities was all important. In order to avoid trouble with labor, wages for piece work were fixed at a high figure, sometimes ridiculously high, so that unskilled persons were able to earn three or four and even more times the wages they received before the war. Probably for the same reason—a desire to avoid trouble with labor—these wages have never been altered. The physician in question suggests that no one under the age of 18 should be allowed to receive more than $7.50 a week, and that the remainder should be held in trust till the war is over.

The Latest Ambulance Train

A short time ago I described an ambulance train constructed in this country for the American Army which was then the last word in ambulance trains. But progress never stops. A train has just been constructed for the use on the continent, probably in Italy, and is being exhibited by Red Cross officials in London and other cities. In general design and internal arrangement this train closely resembles the one made for the American Army. Certain mechanical modifications were suggested by recent experience. Painted khaki color outside and white inside, this train is 960 feet long and weighs 440 tons. There are sixteen coaches, providing accommodation for 342 cot patients, besides infectious and mental cases in special isolation wards. There are also sitting and dining compartments for officers; staff, pharmacy, and personnel cars; two kitchen cars; refrigerating chambers for perishable food, store rooms, linen presses, and brake vans. The windows are fitted with "louvre" blinds covered with wire netting to keep out the flies, and ventilation and sanitation are carried out on the most approved principles. More than 3,000 gallons of water are carried on the train, and the two kitchen cars can supply about 50 gallons of hot water at any time. The train is electrically lighted and fitted with detachable electric fans throughout. It is steam heated, and the staff and personnel cars have a special self-heating apparatus which can be brought into use when the engine is not attached. The beds for the patients have been specially designed, and can, if necessary, be used as stretchers.

PARIS LETTER

Paris, May 9, 1918.

Plastic Operations on the Skull

At the request of the army medical department, this subject was discussed at a reunion of the members of the Société de neurologie de Paris and of the chiefs of the Centres neurologiques d'armées and de l'intérieur. Dr. Louis Mourier, undersecretary of state for the Service de santé militaire, presided. The conclusions contained in a report made by Dr. Georges Guillain, professeur agrégé à la Faculté de médecine de Paris and médecin des hôpitaux, were adopted by the assemblage as follows: Before a cranioplasty is done, the *trépané ancien* should be systematically examined from the neurologic standpoint. Cranioplasty is contraindicated when (1) there is present any nervous trouble connected with modifications in the circulation in the brain; (2) if the cerebrospinal fluid is not absolutely normal as to tension, chlorids and albumin content, and if it contains leukocytes; (3) if ophthalmoscopic examination discloses the existence of a papillary stasis or choked disk; (4) if the patient shows partial or general epileptic phenomena; (5) if the roentgen rays reveal an intracranial projectile; (6) if the patient has exhibited serious meningeal symptoms. In those cases in which the extensibility of the cicatrix seems to be the cause of nervous symptoms, it is wise, before undertaking any plastic operation, to make sure that these symptoms will disappear on the application of a protective external plate.

From the medicomilitary standpoint, any decision that may be taken should be based, above all, on the proper appreciation of the cerebral or mental condition. All reserves made so far as concerns the brain trouble, an extensive loss

of cranial substance, whether a plastic operation has been done or not, does not mean, in itself alone, obligatorily and immediately, a retirement pension, but only, and during a period of four years, an invalidism with renewable allowance equal to a retirement pension.

Nerve Suture

The question of nerve suture was also discussed at this meeting. In a general way, in cases in which there is no evidence of the return of motion or sensation, an unfavorable opinion should not be given until two years have elapsed after the date of the suture. During this waiting interval the patient is invalided temporarily and examined several times by the same neurologist. In cases presenting evidence of a possible return of function, it is impossible to foretell the period of time that must elapse before the case can be pronounced incurable. The patient after suture should be treated in the same neurologic center in which the suture was done, and for as long as is judged necessary by the chief of the center. The latter is the one to determine, according to the case, the moment when the incurability can be shown. The réunion also passed a resolution to the effect that after sufficiently long treatment of those patients who show signs of progressive regeneration, the chiefs of the centers should be authorized to send them away either on repeated leaves of absence during convalescence or on renewable *congés de travail*, with return to the center for further examination and final decision.

Nerve Prostheses

It was also stated at this meeting that patients with nerve injuries supplied with prosthetic apparatus intended to remedy transient motor insufficiencies often continue to use such apparatus although certain movements have already returned. Some of those keeping on with the use of the apparatus believe that it is still necessary to their progress; others, although recognizing that it should be worn only temporarily, continue to wear it, either for ostentation or to hide the improvement which they have made. The réunion insisted that all men who have been using such an apparatus for more than six months should be examined in the center where it was ordered, to determine the necessity for further wear or to discontinue its use, and also to make such changes in its construction as may be needed.

Autochthonous Malaria

At the Réunion médico-chirurgicale de la III-e Armée, Drs. Grysez and Pierret reported on cases of malaria seen in the army during 1917, in which the diagnosis had been confirmed in the laboratory. Among the thirty-two cases there were twenty-four of autochthonous malaria. These patients had never had malaria previously, they had never been out of France, and they inhabited regions that were nonmalarial. In twenty-three cases the *Plasmodium vivax* was the cause; the *Plasmodium falciparum* was encountered in only one case. This particular patient had lived in Paris during peace times, had never been outside of France and had never had malaria before. He had been stationed for several months in the neighborhood of troops from Morocco and had contracted a tropical fever, confirmed by the presence in the blood of rosettes and crescents. Dr. Rieux discussed the symptomatology of primary autochthonous malaria. In the cases observed, the first impression was that they were not malaria but cases of typhoid and paratyphoid fever. Nevertheless, even then certain differential clinical signs were present which are not of the symptomatology of the last named diseases: the onset generally with distinct febrile manifestations; bilious vomiting, pulse rapid and thready; finally, the apparently contrary fever curve, with some falls of the temperature more or less brief in duration. These particulars are always important in the early clinical diagnosis of primary tertian malaria, which does not in its initial manifestations resemble the established tertian or double tertian type—secondary tertian malaria. If the clinical evidence is in favor of primary malaria, blood examination and the finding of the hematozoon will remove all doubts.

Primary Retarded Suture of War Wounds

Dr. A. Chalier of Lyon recently reported to the Société de chirurgie de Paris thirty-two observations of war wounds which he has treated by retarded primary suture, that is to say, not in the first twelve or twenty-four hours but after the thirty-fifth, the fortieth hour, even up to intervals of three, four, five and even eleven days. Up to the present it has been admitted that primary union of war wounds should be attempted only, with prudence, when the wound has been cleaned in a very thorough manner before the twelfth hour, in the preinfectious stage, and when systematic bacteriologic control has failed to reveal the streptococcus. Now, Chalier's cases demonstrate that the game need not be considered lost if the patient does not arrive in the first twelve hours, and even if bacteriologic control is not possible. In fact, in the absence of a bacteriologic examination it is often possible to decide whether the wound is seriously or only slightly infected by the aspect of the wound and surrounding tissues, and by estimating the general condition of the patient: An infected wound, in the bacteriologic sense of the word, may be only very slightly so from the clinical standpoint. These wounds can often be sutured, provided they can be kept under close surveillance. The thirty-two delayed sutures of Chalier's cases gave rise to only three occasions for reopening the wound. In the remaining cases the convalescence was uncomplicated and the final results were as good and achieved as rapidly as in the cases of early primary suture; the scars were linear and soft and nonadherent. Many of these patients rejoined their corps in less than a month, including even their leave of convalescence, in spite of the fact that these patients had been seriously wounded, with bone lesions in five cases and projectiles in the tissues in seventeen cases.

Chalier insisted that between early primary suture—the ideal method, and nearly always applicable in the cases in which operation is performed within twelve or twenty-four hours—and secondary suture, done later in cases that had previously been disinfected surgically, chemically or spontaneously, there is a place for a late primary suture, which is applicable only to certain cases in which there is only slight infection. Dr. Potherat stated that he, too, had treated by retarded primary suture wounds of the soft parts which had been inflicted three, four, five, six and even nine days previously. Dr. Pierre Delbet, professor of clinical surgery in the Faculty of Medicine of Paris, stated that he had recently treated some patients between twenty-two and forty-eight hours after they had been wounded. Several were infected bacteriologically but, in spite of this, he made a free excision and sutured the wound tightly without drainage. The results had far surpassed his expectations.

Cross of Legion of Honor for Military Nurses

Contrary to the custom in vogue as applying to civilians, the cross of the Legion of Honor conferred on army people carries with it pecuniary advantages (varying according to the degree conferred). It was recently decreed that these benefits should be extended, under certain conditions, to the military nurses and the Red Cross nurses mobilized in the *formations sanitaires* of the army.

Treatment of Bone Tuberculosis

The administration of the Assistance publique has decided, in accordance with a report made by M. Rendu, member of the city council, to establish at Salies-de-Béarn a center for the treatment of bone tuberculosis in children. Such children will be treated here as were sent during times of peace to Berck-sur-Mer.

Brazilian Medical Mission

A party of Brazilian military surgeons who came to France under the leadership of Dr. Rodrigo Bulcao for the purpose of studying the work of the Service de santé, have gone to the front.

Marriages

MAJOR W. WAYNE BABCOCK, M. R. C., U. S. Army, Philadelphia, on duty at Fort McPherson, Atlanta, Ga., to Miss Marian C. Watters of Swarthmore, Pa., June 10.

LIEUT. FRED LAWVILLE RHODES, M. R. C., U. S. Army, Toledo, Ohio, to Miss Mary Z. Howard of Columbus, June 4.

FREDERICK WILLIAM JONES, Verden, Okla., to Miss Blanche E. Armstrong of Oklahoma City, Okla., March 31.

ARTHUR GALLOWAY BEALL, Hutchinson, Kan., to Miss Hattie May Stewart of Kansas City, Mo., June 1.

MALCOLM ROBERT MARKSON, Calumet, Mich., to Miss Irene H. Wright of Hancock, Mich., May 18.

E. BERT WILEY to Mrs. J. K. Scott, both of Helena, Mont., at Bozeman, Mont., May 17.

E. FREEMAN ROBBINS to Miss Maude Farrar Taylor, both of Houston, Tex., May 29.

Deaths

John Edward Jones, Altha Hall, Alexandria County, Va.; George Washington University, Washington, D. C., 1897; aged 51; consul and consul general at Dalny, Manchuria, in 1905 and 1906, consul at Winnipeg, Man., in 1907 and 1908, and consul general from 1908 to 1913; consul general at Genoa, Italy, from 1913 to 1915, and since that time consul general at Lyons, France; for sixteen years a member of the staff of the Washington *Evening Star;* died at his home, May 20, from nephritis.

George W. Berntheisel, Columbia, Pa.; Jefferson Medical College, 1866; aged 74; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; and once president of the Lancaster County Medical Society and Columbia College of Physicians and Surgeons; a veteran of the Civil War; president of the Medical and Surgical Staff of the Columbia Hospital; died in that institution, May 28, from cerebral hemorrhage.

Neil Jamieson Hepburn, New York City; College of Physicians and Surgeons in the City of New York, 1868; aged 71; a Fellow of the American Medical Association; and a member of the American Ophthalmological Society, and American Otological Society; consulting ophthalmologist to the Manhattan Eye, Ear and Throat Hospital, and the Paterson (N. J.) Eye and Ear Infirmary; a veteran of the Civil War; died at his home, May 28.

Alfred Wiles Schooley, Braddock, Pa.; Jefferson Medical College, Philadelphia, 1871; aged 70; a member of the Medical Society of the State of Pennsylvania; for nearly forty-five years a member of the medical staff of the Pennsylvania Railroad; also surgeon for the Pittsburgh and Lake Erie Railroad; dean of the medical staff of the Braddock General Hospital; police surgeon of Braddock; died at his home, May 24.

Nathan Ryno Garter, Baltimore; University of Maryland, Baltimore, 1879; aged 57; a Fellow of the American Medical Association; and a member of the Legislative Committee of the American Medical Association; for several terms a member of the state board of health; commissioner of health of Baltimore from 1913 to 1915; died at his home, June 1, from septicemia, following an infection of the throat.

Richard H. Smith, Kokomo, Ind.; Medical College of Indiana, Indianapolis, 1880; aged 72; a member of the Indiana State Medical Association; also a druggist; for many years coroner of Howard County; for several terms treasurer of the Howard County Medical Society and a member of the board of health of Kokomo; died at his home, May 29, from uremia.

Walter Darwin Williamson, Portland, Maine; University of Vermont, Burlington, 1888; aged 54; a Fellow of the American Medical Association; and once president of the Maine Medical Association; a member of the surgical staff of the Maine General Hospital, and of the National Association of Railway Surgeons; died at his home, June 2, from nephritis.

Lieut. Wyvern Almon Coombs, M. C., Maine N. G., Westbrook, Maine; Bowdoin Medical School, Brunswick and Portland, Maine, 1913; aged 27; a Fellow of the American Medical Association; on duty at Camp Greenleaf, Fort Oglethorpe, Ga.; was thrown from his horse at Camp Greenleaf, April 20, and died from his injuries, April 23.

Lyman F. Babcock, Deadwood, S. D.; Rush Medical College, 1864; aged 79; formerly a Fellow of the American Medical Association; whose fifty-first anniversary in the practice of medicine was celebrated at the annual meeting of the Black Hills District Medical Association in 1915; died in the Yankton State Hospital, May 30.

Frederich Curt Harnisch, Chicago; University of Leipzig, Germany, 1890; aged 57; a Fellow of the American Medical Association; a specialist in ophthalmology; ophthalmic surgeon to Alexian Brothers', St. Elizabeth's, and St. Mary's of Nazareth Hospital; died in the Alexian Brothers' Hospital, Chicago, May 25, from heart disease.

David Miller Barr, Philadelphia; Jefferson Medical College, 1864; aged 81; assistant surgeon U. S. Army, and on duty at the Catherine Street Hospital, Philadelphia, in 1864 and 1865; later medical director of sanatoriums in Ocean Grove and Long Branch, N. J.; died at his home, June 2, from myocarditis.

Nicholas Berdan Van Houten, New City, N. Y.; College of Physicians and Surgeons, in the City of New York, 1867; aged 76; a member of the Medical Society of the State of New York; for forty years physician of Rockland County; died at his home, May 29.

Frank Wesley Searles, Mokena, Ill.; Northwestern University Medical School, Chicago, 1877; aged 65; formerly a Fellow of the American Medical Association; died March 26, six days after an operation for a malignant tumor of the pylorus.

Marcus Whiting, Bruce, Wis.; Rush Medical College, 1883; aged 57; formerly a Fellow of the American Medical Association; for many years a practitioner of Peoria, Ill., and alderman from the first ward; died at his home, near Bruce, May 22.

Joseph Alva McCullough, Steubenville, Ohio; Western Reserve University, Cleveland, 1878; aged 62; a Fellow of the American Medical Association; for eighteen years local railway surgeon; died at his home, May 23, from pneumonia.

Raoul S. Dossmann, Ville Platte, La.; Kentucky School of Medicine, Louisville, 1900; aged 40; formerly a member of the Louisiana State Medical Association; coroner of Evangeline Parish; died at his home, May 23.

William Thomas Goldsmith, Washington, D. C.; Medical College of Georgia, Augusta, 1853; aged 87; a surgeon in the Confederate Service during the Civil War; died at his home, May 25, from cerebral hemorrhage.

Lucius Norton Henry, Ripley, Ill.; Miami Medical College, Cincinnati, 1890; aged 48; a member of the Illinois State Medical Society; formerly a druggist; died in Kansas City, March 26, from gastric ulcer.

Samuel Hiatt Burnside, Wichita Falls, Tex.; University of Pennsylvania, Philadelphia, 1882; aged 62; a Fellow of the American Medical Association; died at his home, March 28, from cerebral hemorrhage.

Benjamin B. Fishburn, Lebanon, Pa.; Medico-Chirurgical College of Philadelphia, 1898; aged 47; while walking over a grade crossing in Lebanon, May 27, was struck by a train and instantly killed.

John Bennett, Fowlerton, Tex.; University of Louisville, Ky., 1910; aged 33; formerly a Fellow of the American Medical Association; died in San Antonio, Tex., May 19, from ptomain poisoning.

Isaac Todd Mullen, Chicago; University of Buffalo, N. Y., 1884; aged 76; for many years postoffice inspector in the railway mail service; died at his home in Chicago, May 12, from heart disease.

Seymour C. Williamson, Canisteo, N. Y.; College of Physicians and Surgeons, Baltimore, 1885; aged 77; for one term coroner of Steuben County; died at his home, May 21, from pneumonia.

William Pitt Dunbar, Campbell, Tex.; Vanderbilt University, Nashville, Tenn., 1880; aged 67; a member of the State Medical Association of Texas; died at his home, May 27.

Walter D. Chaffee, South Bend, Ind.; Hahnemann Medical College, Chicago, 1887; aged 52; died at his home, May 16, from nephritis.

Thomas Price Tisdale, Alameda, Calif.; Cleveland University of Medicine and Surgery, 1858; aged 88; died at his home, May 18.

Adin F. Large, Braddyville, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1884; aged 64; died at his home, May 10.

George Alfred Hurst, Dorset, Ohio; Eclectic Medical Institute, Cincinnati, 1884; aged 70; died at his home, about May 12.

Adam Raymond Klein, Muscatine, Iowa; Jefferson Medical College, 1904; aged 42; died at his home, May 18, from pulmonary tuberculous.

John A. Read, Tecumseh, Kan.; Bennett Medical College, Chicago, 1871; aged 83; died at his home, May 16.

Harry J. Brandom, Hettick, Ill.; (license, Illinois, years of practice, 1877); aged 86; died at his home, May 5.

John F. McCarty, Briggs, Tex.; Louisville, Ky., Medical College, 1883; aged 82; died at his home, May 14.

Seymour E. Ball, Eagle Rock, Calif.; St. Louis University, 1903; died about May 9, from cardiac asthma.

Michael J. McTurnan, Rigdon, Ind.; (license, Indiana, 1897); aged 77; died at his home, May 20.

Correspondence

SERUM DIAGNOSIS OF SYPHILIS

To the Editor:—May I point out some fallacies in Dr. Noguchi's answer to my criticism of his proposed new method of performing the Wassermann test in Army and Navy laboratories?

It is true that the presence of native antisheep amboceptors in human serum may cause errors in the Wassermann test when performed with a sheep hemolytic system. His statement, however, that this factor is uncontrollable is not correct. As a matter of fact I am quite certain that most careful workers who use the sheep hemolytic system remove the native antisheep amboceptors from serum before testing it.

Dr. Noguchi frankly admits that with his method a moderately positive serum containing an excess of native complement may give a weaker reaction than would a serum with an average amount of complement. Then by what process of reasoning can he reach the conclusion that a weakly positive serum may not give a negative reaction under the same conditions?

Dr. Noguchi claims that there is no great variation in the complement content of human serums. This is certainly not in accord with the teachings of most authorities on this subject, and is not in accord with my own experiences. During the past two years I have made a large number of native complement determinations on serums which were to be tested in the raw state, and have found the variations quite considerable. A detailed report of this work is now in the course of preparation and will soon be published. It will be sufficient here to point out the fact that some of the procedures advised by Dr. Noguchi for his new test themselves betray a recognition of the existence of this wide complement variation. After the addition of corpuscles and amboceptor to his tests he incubates for one-half hour. At the end of this time some of his controls are completely, and some only partially, hemolyzed; as a matter of fact, a few may have been hemolyzed for from ten to fifteen minutes. Those serums which do not show complete hemolysis in the controls at the end of the half hour period receive another unit of amboceptor and are incubated for another half hour. Those serums which even then do not show a completed reaction are retested with negative human serum as complement. We here recognize variations in complement content ranging all the way from an amount sufficient to bring about complete hemolysis in fifteen minutes with one unit of amboceptor to an amount that will not complete hemolysis in one hour with two units of amboceptor. That these differences represent considerable variations in complement quantities will be readily appreciated by any one who has ever done a complement titration.

As an example of the importance that authorities place on the need of uniformity in complement strength, I may quote C. F. Craig (Observations on the Noguchi Modification of the Wassermann Complement Fixation Test in the Diagnosis of Lues in the Military Service, *Jour. Exper. Med.*, **12**, 726. This refers, of course, to the old Noguchi test). Craig adopted the Noguchi test but used inactivated serum, because he feared that with noninactivated serums a certain percentage of false positives would be obtained. He insists on the careful titration of complement and says, "A whole series of tests may be rendered valueless by a slight loss of strength in the complement."

Dr. Noguchi surely deserves the thanks of all laboratory workers for having devised the technic for preparing acetone-insoluble lipoids for antigenic purposes. I am ready to admit that a good antigen of this kind is usually more highly antigenic and less anticomplementary than one obtained by any other method. That it is anticomplementary, however, is evidenced by the fact that we make anticomplementary titrations on it. No matter what fraction of the anticomplementary unit we accept as our antigen dose, it always carries with it a corresponding fraction of anticomplementary qualities. As I have pointed out in my previous communication, the anticomplementary activity of antigens varies for different serums. Now then, given a serum with the minimum complement content, or one that in Dr. Noguchi's method requires twice the amboceptor dose and from two to four times the hemolyzing time that a maximum complement serum would, and which is unduly sensitive to the anticomplementary qualities of the antigen, it is readily conceivable that a false positive reaction would result.

Dr. Noguchi fails to see any objection to his procedure of adding a second dose of amboceptor to serums whose control tubes are not hemolyzed at the end of the half hour period. I would again refer him to the paper by Ottenberg mentioned in my previous communication, where he will find discussed the fallacy of the assumption that complement deficiency can be safely compensated for by amboceptor excess, and which, I am sure, will convince him that such a procedure is not a safe one.

After all has been said, the fact remains that Dr. Noguchi's proposed new test ignores a complement variation the maximum of which is represented by a hemolyzing time of fifteen minutes, or possibly less, with one unit of amboceptor and the minimum by a hemolyzing time of one hour with two units of amboceptor. If this is permissible, then all our conceptions of complement fixation tests must be revised. Then can a chemist also properly make determinations with sodium hydroxid solutions ranging all the way from a tenth normal to a fiftieth normal, and make all his calculations as though he had been working with a twentieth normal.

Dr. Noguchi's old test is a model of scientific accuracy compared with his present method. And yet Kolmer says, "A positive Wassermann reaction, however, is better evidence of the presence of syphilis than a positive Noguchi reaction, because of the possibility of false complement fixation occurring in the latter when active serums are used." With a good acetone-insoluble lipoid antigen he finds these false reactions to be about 2 per cent. McFarland says, "Unfortunately, it [the Noguchi test] seems to have the demerit of occasionally finding the reaction in negative cases, which is a serious defect." Kaplan says, "All things being equal, the method is fairly reliable, and in my hands gave a positive error of 2.5 per cent." These quotations represent the general opinion of authorities. If Noguchi's old method has a positive error of about 2 per cent., his new method surely has a much larger positive error and also, in addition, a negative error.

What a reflection it would be on science if considerably over 2 per cent. of all those of our Army and Navy who will be subjected to complement fixation tests were to be falsely stigmatized with syphilis. Surely these men now face enough hazards without adding this one. I am still firmly convinced that to use the test proposed by Dr. Noguchi in Army and Navy laboratories for diagnostic purposes would be a great injustice to our soldiers and sailors.

J. J. SEELMAN, M.D., Milwaukee.

BÁRÁNY CHAIR TESTS AND FLYING ABILITY

To the Editor:—In an article on "Bárány Chair Tests and Flying Ability" (THE JOURNAL, April 13, 1918, p. 1064), we presented certain data concerning the Bárány chair tests of 100 naval aviators, and found an absence of correlation between the tests and the flying ability of the men. While, of course, the Bárány tests have in no way been intended to predict the flying ability of applicants for aviation, nevertheless, men who have failed to respond normally to these tests have in most instances, it is understood, been rejected, and rejected solely because of that failure. In other words, the tests have been used to predict inability to fly. If abnormal reactions constitute sufficient grounds for rejecting applicants, then perhaps it may be well to see what actually successful fliers do in a Bárány chair, and what, if any influence flying has on their reactions.

Table 1 shows the results of the nystagmus times of fifty aviators, all of whom were examined twice by the same examiner. The first examination was given before the man's flight instruction began, and the second after he had qualified. The interval between these two examinations varied from

forty-six to eighty-eight days. The tables were compiled and submitted by Asst. Surg. C. J. Brown, U. S. Navy, at the Naval Air Station, Pensacola, Fla.

TABLE 1.—NYSTAGMUS TIMES OF FIFTY AVIATORS

Name	Nystagmus	Time
1. J. E.	20	25
After 60 days	25	25
2. F. B.	19	19
After 47 days	8	2
3. E. E. B.	23	21
After 81 days	19	19
4. W. A. B.	26	21
After 51 days	21	18
5. J. S. B.	27	25
After 84 days	15	12
6. J. S. B.	20	11
After 71 days	10	5
7. K. H. C.	22	19
After 60 days	20	17
8. D. D.	21	21
After 67 days	22	24
9. S. S. H.	24	27
After 47 days	11	13
10. A. L. H.	19	17
After 46 days	28	22
11. L. B. H.	20	19
After 55 days	22	19
12. S. C. K.	22	19
After 67 days	14	20
13. K. B. K.	12	11
After 51 days	14	14
14. A. J. L.	24	25
After 66 days	25	27
15. R. L. F. T.	20	19
After 63 days	10	13
16. S. P. W.	30	26
After 84 days	18	21
17. H. M. W.	20	14
After 62 days	17	17
18. W. M. W.	18	17
After 69 days	18	17
19. S. A.	21	20
After 65 days	13	15
20. R. L. A.	18	22
After 70 days	15	16
21. G. T. B.	19	20
After 68 days	15	15
22. T. M. B.	12	13
After 65 days	13	14
23. E. D. B.	16	21
After 82 days	15	19
24. J. F. B.	28	24
After 85 days	12	15
25. E. J. B.	25	26
After 72 days	23	20
26. S. T. C.	19	17
After 58 days	20	20
27. H. R. D.	28	30
After 85 days	38	30
28. J. A. E.	22	20
After 79 days	24	21
29. L. A. H.	27	22
After 56 days	21	19
30. R. H.	8	11
After 61 days	10	12
31. G. S. H.	24	22
After 84 days	12	14
32. C. F. K.	19	24
After 67 days	19	17
33. L. H. L.	17	15
After 66 days	14	10
34. R. R. L.	25	22
After 67 days	20	18
35. T. N. M.	28	24
After 71 days	20	21
36. F. R. M.	24	20
	10	13
37. J. C. N.	14	13
After 51 days	18	22
38. G. T. O.	32	30
After 85 days	17	22
39. W. L. P.	19	33
After 47 days	22	23
40. H. M. P.	22	18
After 84 days	20	22
41. G. L. R.	18	17
After 86 days	21	20
42. W. T. S.	23	17
After 52 days	16	18
43. C. M. S.	22	25
After 69 days	16	20
44. J. F. S.	24	21
After 88 days	13	15
45. W. W. T.	11	10
After 52 days	12	8
46. J. H. T.	25	24
After 69 days	22	19
47. I. B. T.	10	19
After 78 days	10	19
48. V. F. V.	17	19
After 85 days	13	15
49. A. K. W.	20	22
After 51 days	17	18
50. C. H. W.	17	15
After 67 days	0	7

Summary		Nystagmus	
Total days	3,383	Normal in both examinations	26
Number of aviators	50	Normal first, abnormal second	13
Average Number	67.6	Abnormal first, normal second	2
Least Number of days	46	Abnormal both examinations.	9
Greatest number of days	88	Abnormal in one or both	24

From this table it will be seen that at the first examination thirty-nine of the fifty had normal reactions, eleven abnormal reactions, if we consider twenty-six seconds as the average duration of nystagmus in normal individuals and sixteen seconds and thirty-two seconds the lower and upper limits of normal nystagmus time At the second examination twenty-eight were normal and twenty-two abnormal, thirteen aviators dropping into the abnormal class after flying, and nine giving abnormal reactions in both examinations. The abnormal reaction in all but one instance consisted of a nystagmus time of less than sixteen seconds. In 56 per cent. of the men, nystagmus time was very positively and definitely decreased following a period of flying. In THE JOURNAL, May 25, 1918, Lewis and Pike deny the actuality of the decrease in nystagmus time after numerous flights. They refer to mumps and syphilis as the probable causes in any cases coming to our knowledge in which nystagmus time has been diminished. We have been unable to substantiate either disease as the cause in any of the cases reported.

We are further informed by Assistant Surgeon Brown in his paper read before the Medical Society at Pensacola that in an examination of 250 qualified aviators, while their falling tests were normal in all instances, in 66 per cent. of the cases an abnormal past-pointing test was obtained. In an examination of 402 men who have qualified as fliers or are likely to qualify in the near future, Dr. Brown found but ninety-seven men with normal Bárány reactions.

Much the same sort of results are obtained in examining individuals whom we know have excellent senses of balance and equilibrium, such as whirling dancers and trapeze performers. This fact is also denied by Lewis and Pike in their article referred to above. We have examined only a very small number of these individuals, six in all, but in all of the six cases obtained abnormal reactions. They are given in Table 2.

TABLE 2.

	Nystagmus		Past-Pointing To R.		Past-Pointing To L.		Falling	
	R-LN	L-RN	RA	LA	RA	LA	R.	L.
E. H., whirling dancer	18	17	6	1	1	1	None	None
Mrs. E. H., whirling dancer	12	13	1	1	1	1	None	None
C. M., circus trapeze performer	19	19	3	2	1	2	None	None
E. S., circus trapeze performer	19	21	1	1	1	1	To right	To left
F. M., circus trapeze performer	12	17	2	1	1	2	None	None
O. J. S., circus trapeze performer	38	10	1	1	1	1	None	None

It is interesting to note that in five of these individuals there was no falling after whirling, in five the past-pointing was markedly abnormal, and in three, the nystagmus times were below normal, in two normal, although both below twenty-six seconds, and in one "mixed," that is, left nystagmus above normal and right nystagmus below.

We believe, therefore, that not only are we justified in our conclusion that abnormal Bárány reactions do not indicate inability to fly, but also that there is no correlation whatever between equilibrium tests as established in the Bárány chair and actual flying ability, and that flying and other practices requiring an acute sense of balance, if indulged in over a considerable period of time, have a very definite effect on the Bárány reactions. To what this effect is due, we are unable to say.

Prof. Raymond Dodge of Wesleyan University, who has for the past year been doing elaborate experimental work along these lines, says:

"The grounds of my scientific conviction that the nystagmus test does not indicate fitness to fly are both practical and theoretical. It seems incomprehensible to a psychologist that these fallacious sensory data, which are really worse than useless to a flier, should have been selected as a test of his ability to fly. It almost seems like a joke of the enemy physiologists to hinder our air service. I believe that it should be abolished as a test, since, while the results are scientifically interesting, they have no practical value in indicating fitness to fly."

ROBERT P. PARSONS, M.D.,
LOUIS H. SEGAR, M.D.,
Cambridge, Mass.

"PROTECTION AGAINST LICE"

To the Editor:—Objection from an influential source—medical, military and editorial—has been made to the use of fats for the inunction of troops in the trenches as a protection against body lice, as suggested by me in THE JOURNAL, May 11, 1918, p. 1395, and space therefore is asked for reply.

The proposal is held to be unworkable if applied to immense bodies of men as there are required, say, 50 tons of grease for an army of a million men; but this objection hardly meets the point made in my former note.

It is assumed that troops on leaving training camps, etc., are free from external parasites. The infectious peril from lice lurks at the front wherever fatalities or casualties with severe shock among infested men occur, be they friend or foe. If a body of relieving troops should be thoroughly anointed just before quitting camp, and this performance repeated at the front as opportunity offered, the extremities especially being treated, it could be said with reasonable confidence—taking no account whatever of the two forms of dangerous infection for which such lice are responsible—that relief of the American soldier from the moral repugnance, the physical nuisance and the nagging caused by these pests would add perhaps 10 per cent. to his effective fighting power. Such anointing would also tend to reduce the ill effects of exposure to cold and wet in the trenches, would conserve body heat, and otherwise would strengthen resistance.

The use of fats and oils by natives of both arctic and tropical regions seems natural and instinctive, the aim in part being defense against parasitic vermin, together with conservation of body heat in the cold regions, and the tempering of atmospheric heat in the tropics.

In a paper by me, read at the Third Pan-American Medical Congress in 1901, discussing insect parasites and their agency in the spread of disease, the following sentence occurs: "The prompt decamping of lice from the bodies of the dying or dead is a fact well known to those familiar with the personnel of numbers of those unfortunates who seek or are brought to large public hospitals, and that such mobile parasites may not carry with them . . . the active elements of recognized infections would seem impossible when the capacity of other parasites is considered in this connection." The assumed fact of general knowledge among physicians of the migratory range of body lice seems to have been overstated in the foregoing quotation; for, to many medical men, it appears to be a novel proposition.

I am indebted to Major Garrison, of the Army Medical Museum and Library, for a reference that bears somewhat on the point mentioned. It is found in the poem, "The Death of Philip II," by Paul Verlaine. The pertinent lines, as translated, read:

> A gaunt old man, on the bed stretched supine,
> . . . . . .
> His throat sends forth a shrill and hollow wail,
> . . . . . .
> And his foul lips a fearful stench exhale.
> In his beard, as with blighted amaranth tinged,
> Through his white hair, streaked with ruddier glow,
> Beneath his yellowing lawn, with rich lace fringed,
> Quick, cruel, hungry, swarming to and fro
> To suck their sallow victim's blood unclean
> The lice, in serried squadrons come and go.
> This is the King, writhing in pangs obscene.
> . . . . . .
> And from a thousand holes sprung in a trice
> Like clammy serpents from their foul abode,
> On the cold corpse worms mingled with the lice.
> King Philip was . . .

Realistic as is this rendering, it is said that it lacks something of the morbid Frenchman's biting flair. The poet naturally missed the point that the vermin were in exodus—deserting the sinking human bark—but the sources of his information no doubt were also ignorant of this fact. The worms mentioned presumably were maggots escaping from fly-blown, gangrenous ulcers. Rats having plague pneumonia come out of their holes to die, bearing infected fleas which soon decamp to other hosts; and such an appearance of rats unfailingly foreruns pandemic plague—bubonic or pneumonic—among oriental peoples.

It would be a fair test of the value of the suggestion made as to lice if two companies or battalions of the same regiment, doing similar duty in camp and trench, were selected—one to use the inunction method, the other to take chances as they come. A month's experience of thorough application in trench conditions would probably demonstrate whatever value fat may have in preventive hygiene; and, if found effective, such personal use by the soldier of this means should become as obligatory as is the proper care of his weapons and equipment. GEORGE HOMAN, M.D., St. Louis.

[COMMENT.—Any result produced by fats will no doubt be obtained equally well with the cheap and abundant liquid petrolatum.—ED.]

SCHOOLS OF PHYSICAL EDUCATION FOR RECONSTRUCTION AIDES AND THE MEDICAL PROFESSION

To the Editor:—The tendency in medicine is toward more activities for prophylaxis and hygiene. When one talks to members of the exemption boards he finds that they believe many of the rejections for heart disease and frequently for tuberculosis would have been avoided if the men had received proper hygienic attention, particularly of the mouth, in childhood. Hygiene, however, concerns not only the mouth, but also the whole body and is an important feature in the physical education of children. The war has brought to our attention more strongly the importance of good physical development of the men of draft age. We cannot have strong young men, however, unless they are properly developed during childhood and youth. The serious consideration of this question is of such national importance, and concerns the work of the medical profession so closely, that the American Medical Association should assert itself in its solution.

There is no doubt that, in certain portions of the country, particularly in the East, some members of the profession take an active interest in this question; but the whole country, the whole profession, needs to be aroused.

The legislators of certain states (New York, New Jersey and California) have realized the importance of the matter by passing laws to the effect that all children during their school age must have a certain amount of physical exercise during the day as a counterbalance against the effect of the confinement in the schoolroom. Recognizing the importance of exercise for children, one naturally asks, Who will conduct this part of their education? How are we to get good gymnasium teachers? Have we proper normal schools for the training of teachers and playground directors? Perhaps few physicians are aware that there are today more than twenty schools of physical education with more than 3,000 pupils in this country. As several of their studies are medical in character, it would be proper that the American Medical Association give more attention to their work, assuring for instance, that their standards are high, and that their graduates will do scientific and hygienic work.

In this connection there is an important question that demands immediate solution with reference to the war. When the reconstruction hospitals begin their activities, massage and reeducative exercises will be an important feature in their work. Where will we get operators to fill these places? The Surgeon-General's Office, no doubt, feels that all the nurses we have will be needed for other work, and has thought that the normal schools of physical education could help provide what they call "orthopedic aides" and has advised some of them to give suitable courses.

[COMMENT.—The Surgeon-General has announced regulations for the examination of applicants for these positions, who must be graduates of training schools for nurses and furnish one letter of recommendation from an orthopedic surgeon and another from the principal of a school who knows the applicant personally. The Surgeon-General refers women who wish to take this training to the following certified schools: American School of Physical Education, 44 Botolph Street, Boston; Boston School of Physical Education, 105 South Huntington Avenue, Boston; Posse Normal School of Gymnastics, 779 Beacon Street, Boston; New Haven Normal School of Gymnastics, 1446 Chapel Street, New Haven,

Conn.; Normal School of Physical Education, Battle Creek, Mich., and Reed College, Portland, Ore. The course of training comprises instruction in anatomy, physiology, personal hygiene, the theory of massage and remedial exercises, theory of bandaging, and practice in the last three subjects.—ED.]

These aides to the surgeons in the reconstruction hospitals might be made really useful if their training was made as practical as possible. They ought to know the large features of kinesiology, the normal movements in the various joints, and the normal action of the various muscles so as to be able to apply their activities in massage and exercises in a fairly intelligent manner. While these things can be learned in a fashion on a skeleton and from books and lectures, it would be much better for them if they had had an opportunity to see and work on actual patients. If the profession took up this question through the medical schools and hospitals, working in conjunction with the existing normal schools of physical education in the large cities, we should at least be able to develop this class of help for the restoration of injured soldiers better than has been done in Canada.

The whole subject naturally requires serious consideration and a good deal of active cooperation between elements that are perhaps more or less strange to each other now; but such cooperation ought easily to come within the range of possibilities. When the "aides" are once at work, a certain amount of time should be arranged for their future instruction by means of lectures from members of the hospital staff, who will explain the important features of operations made on patients they are treating and what the aim and possibilities are for the work that they are to perform.

HUGO AD. OLDENBORG, Chicago.

CARELESS METHODS IN FITTING ARTIFICIAL EYES

To the Editor:—It may not have occurred to the readers of THE JOURNAL, as it had not to me until recently, how insanitary are the methods employed by the dealers in artificial eyes. Many surgeons in order to avoid the commercial element of selling something to a patient have been in the habit of referring those requiring ocular prostheses to opticians who keep artificial eyes in large quantities. This has seemed the more reasonable, moreover, because almost invariably after the first eye is fitted our patients go directly to these dealers to have them replaced.

In a case recently referred to one of the best of these, an acute purulent conjunctivitis was developed within twenty-four hours. An examination of the discharge revealed the presence of streptococci, staphylococci and pus cells. While the condition was rapidly controlled, it emphasized the careless methods employed. The shells, having been tried in many eyes, are frequently returned to the case without even being washed, to say nothing of being cleansed in a sterilizing solution. They are then indiscriminately placed in the orbit. When one recalls the numerous conditions for which eyes are removed, including syphilis and gonorrhea, it is apparent that our boards of health should institute protective measures requiring the thorough cleansing in a sterilizing solution of each artificial eye before it is inserted in the orbit. It is rather remarkable that more frequent infections have not been reported.

F. PARK LEWIS, Buffalo.

NEED OF CAMPAIGN TO AROUSE INTEREST IN TRAINED NURSING

To the Editor:—An editorial in THE JOURNAL (June 8, 1918, p. 1768) under the title, "Nurses Needed by the Red Cross," calls attention to the campaign now under way for the enrolment of 25,000 nurses for the Army and Navy, in addition to those already in service, between 10,000 and 12,000.

In this locality the earlier responses have been prompt and the enrolment so heavy that it is difficult to see where our proportion is to come from. Hospital service has been seriously impaired, and there are but few nurses available for work in private homes. The "practical" nurse to whom the editor refers has been so displaced in recent years by the trained nurse that she cannot be counted on for much help in the present emergency.

A most serious aspect of the situation is the shortage of pupil nurses in the training schools. Young women are going to work in greater numbers than ever before, and are entering lines that have heretofore been closed to them; but now, when the demand for their services is greatest, there is a most deplorable lack of pupil nurses in the training schools.

To arouse interest in trained nursing among the qualified young women throughout the country, would it not be practical for the Red Cross to put on a campaign, nation wide in its scope, to stir up interest in trained nursing as a profession?

Such a campaign would direct the minds of many young women to this great need, and the depleted ranks of the training schools would be filled, to the end that, when future demands are made for nurses, a supply would be available.

J. M. MASON, M.D., Birmingham, Ala.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DICHLORAMIN-T

To the Editor:—I am interested in the use of Dakin's dichloramin-T solution in ocular infections as considered in the article by Drs. A. S. and L. D. Green (THE JOURNAL, April 27, 1918, p. 1212). Will you kindly inform me how to make the solution correctly? 1. What kind of oil must be used—plain or modified? 2. Does not the substance sold by druggists as dichloramin-T change in its composition? 3. Is it weighed or measured? 4. Does it last a long time if well preserved?

C. VIESCA Y LOBATON, M.D., San Antonio, Texas.

ANSWER.—1. See THE JOURNAL, June 8, 1918, p. 1788.

2. Dichloramin-T is stable when protected from moisture and light.

3. The term "per cent." is commonly used to signify per cent. by weight, though in the United States it is sometimes used with the intention that solids be weighed and liquids measured. In the present case it would make little difference whether both the dichloramin-T and the solvent were weighed or the first weighed and the second measured.

4. No; solutions should be as freshly made as possible.

"THE HONOR ROLL"

To the Editor:—I note the "Military Medical Honor Roll" in THE JOURNAL of June 1, and it is very commendable. It does seem, however, as though those of us who responded to the call for medical men for the Army and Navy, offered our services and were refused on account of physical disability, should have some suitable recognition, also. As it is now, we are classed among the goats.

V. A. C., M.D., Milwaukee.

To the Editor:—In looking over your "Honor Roll" in the current issue it appears to me that you do an injustice to the men who have volunteered and been discharged since you do not include their names. Turn to Wilkin County, Minn.: I was the first one to accept a commission. I was discharged in order to have a complete mastoid operation performed followed by a complete ophthalmoplegia with divergent strabismus. There are many more like myself, and I think we deserve some notice. Please omit my name.

X. Y. Z.

To the Editor:—In the issue of THE JOURNAL for June 1, 1918, you publish a list of physicians who have volunteered or have gone into service in the Army or Navy. What about the men over draft age who have volunteered and have been honorably discharged on account of physical disability, which is always stated to have existed prior to entering service? I am one of that class, and was discharged, Feb. 5, 1918. I was reexamined, May 24, 1918, at Camp Pike, Ark., and am now waiting for a report from the Surgeon-General. It was through no fault of mine—the spirit was all right, but the flesh was weak.

A. E. HARRIS, M.D., Little Rock, Ark.

ANSWER.—As was announced in THE JOURNAL, the "Honor Roll" was limited entirely to those who hold commissions. The primary object in publishing it was to show whether or not each county, district, state, etc., has furnished its quota.

For this reason it does not include the names of those who have volunteered but who, for one reason or another, did not hold a commission at the time our statistics were closed. For example: A county has 100 physicians. Twenty per cent.—that is, twenty physicians—volunteered. Five of the twenty were rejected or discharged for physical or other causes. This county, therefore, at the time of the publication of the Honor Roll still had to furnish five physicians for the M. R. C. in order to meet its quota. The fact that five had volunteered is immaterial; that particular county was still five short of its quota. As stated in the introduction to the Survey, a supplementary survey is in preparation for the use of the county and state societies. This, in addition to indicating those who have accepted commissions, will also give the names of those who have applied for commissions and whose applications are pending and those who have been rejected or discharged.

COTARNIN HYDROCHLORID

To the Editor:—The description of the actions and uses of cotarnin, as given in New and Nonofficial Remedies, was quoted in THE JOURNAL, May 11, 1918, p. 1396, in answer to a query. This description tentatively accepts certain current statements, in the absence of definite published data. I have now done some work with the object of supplying this evidence:

In a recent publication of mine (*Jour. Pharmacol. and Exper. Therap.*, 1918, **10**, 523) on this subject it was shown that perfusion of both uterine (guinea-pig) and frog's vessels (hind extremities) caused relaxation. When the drug was injected around the vessels of the rabbit's ears no change in the vascularity of the organ was noted. Direct application of cotarnin in solution and powder form to different kinds of superficial wounds invariably increased the bleeding. These effects have been confirmed recently by a quantitative method for estimating local bleeding.

Under the same conditions, epinephrin invariably produced vasoconstriction, and diminished or arrested local bleeding.

From this and other evidences in the literature it can be safely stated that cotarnin is entirely worthless as a local hemostatic. Its pharmacologic actions, and, hence, its hemostatic inactivity, are in harmony with its close chemical relation to the isoquinolin group of opium constituents, such as narcotin, from which it is derived.

PAUL J. HANZLIK, M.D., Cleveland.

INSTRUCTION BOOKS FOR MEDICAL OFFICERS—TRAINING CAMPS

To the Editor:—I would appreciate information in regard to the following: 1. The names of books used for instruction of medical officers; where they can be obtained and the price. 2. Are there any other medical training camps besides Fort Riley and Fort Oglethorpe?

WILLIAM E. CODY, M.D., Merrill, Iowa.

ANSWER.—1.

Manual for the Medical Department, 1916, Superintendent of Documents, Government Printing Office, Washington, D. C., 60 cents.
Field Service Regulations, 1914, ibid., 60 cents.
Army Regulations, 1913, ibid., 60 cents.
Drill Regulations and Service Manual for Sanitary Troops, 1914, ibid., 50 cents.
Straub: Medical Service in Campaign, P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia, $1.50.
Havard: Military Hygiene, William Wood & Co., 51 Fifth Avenue, New York, $5.
Ashburn: Military Hygiene, Houghton, Mifflin Company, Cambridge, Mass., $1.50.
Ford: Medical Military Administration, P. Blakiston's Son & Co., Philadelphia, $5.

2. No.

ELIGIBILITY FOR SERVICE IN THE MEDICAL RESERVE CORPS

To the Editor:—Kindly inform me whether I am eligible for a commission in the Medical Reserve Corps of the United States Army. I was born in Hungary and came to this country eleven years ago. I am a citizen of the United States; received my naturalization papers in the year 1915; received my medical education in this country in a well recognized medical college. Please omit my name and address.

X. Y. Z.

ANSWER.—Physicians born in enemy countries are not eligible for commission in the Medical Reserve Corps.

WHEN TO WEAR UNIFORMS

To the Editor:—Is an officer who has been commissioned in the Officers' Reserve Corps of the United States Army permitted to wear his uniform before actually receiving word to report for active duty?

V. EVERIT MACY, M.D., East View, N. Y.

ANSWER.—Reserve Corps officers should not wear uniforms until ordered on active duty.

SERVICE AT BASE HOSPITALS

To the Editor:—I am classifying the diseases that have been noted in this hospital since its inception, and am interested to know what makes up the medical service in the war zone in the hope of making a comparison and study for our men who are in the base hospital here preparing for overseas duty. I shall be interested in any literature you may be able to furnish on the commoner diseases with which a base hospital overseas has to deal.

WILLARD C. STONER, Major, M. R. C., Base Hospital No. 52, Camp Gordon, Ga.

ANSWER.—The following articles on the work in a military hospital may aid you:

Summons, W.: Medical Work Seen in Australian Military Hospitals, *Med. Jour. Australia*, Sept. 22, 1917.
Mandel, Milton: Medical Impressions in a Base Hospital, THE JOURNAL A. M. A., Aug. 25, 1917, p. 637.
Hinds, R. W.: Medico-Military Notes, *Mil. Surgeon*, 1918, **42**, 25, 169.
Smith, L. L.: Diseases of War, Their Prevention, Control and Treatment, and Handling of Infectious Diseases in the Field, *California State Jour. Med.*, December, 1917.
Finley, F. G.: Medical Work at a Base Hospital in France, *Canad. Med. Assn. Jour.*, 1916, **6**, 692.
Thomas, J. J.: Neurological Cases Seen at a Base Hospital, *Jour. Nerv. and Ment. Dis.*, 1916, **44**, 495.

Book Notices

Ambulance de "L'Océan" la Panne. Travaux publiés sous la Direction du Dr. A. Depage. Secrétaires de la Rédaction: Dr. A.-P. Dustin et Dr. G. Debaisieux. Paper. Volume 1, numbers 1 and 2. Price, annual subscription, 30 francs. Paris: Masson et Cie, 1917.

This publication comprises a description of the foundation, the evolution and the organization of the hospital at la Panne. The hospital was hastily constructed on the seashore in the last remaining corner of Belgium after that country had been devastated by the Germans. The method of construction, the internal arrangement, and the subdivisions of the medical service are described in detail, including a description of the American Pavilion and of the Institute Marie Depage. All will remember the visit to this country of Mme. Depage, her efforts to raise funds for this hospital, and her tragic death at sea on her return trip. It is interesting to learn the purpose to which the funds raised here were put, and to know the great good which this hospital is accomplishing in the present crisis.

Following the description of the hospital in general are several chapters devoted to surgical subjects connected with the war, such as general considerations of the treatment of war wounds; secondary suture of war wounds treated by the Carrel method; intravenous injections of peptone in septicemias of traumatic origin and in grave infections; researches on blood pressure in gas intoxications; the prophylactic treatment of tetanus, and a number of other interesting subjects. These are all by members of the hospital staff, and indicate the high class of work that is being done in the institution.

Progressive Methods of Handling the Insane.—At the conference of civic organizers held at the Cincinnati Academy of Medicine, March 18, resolutions were adopted calling on the governor and the state board of administration to establish an institute of psychiatric research. It is asked that this institute be empowered to appoint directors who shall be of recognized authority in psychiatry and neurology, who shall supervise all institutions for the care of insane, criminal and epileptic, and who shall be empowered to devise a program from the improvement of the medical and scientific achievement of the wards of the state; to establish uniform methods and improve systems of care-taking and study; to establish clinical conferences both at the central laboratory and at the various state institutions; to conduct a central laboratory for the examination of pathologic material submitted by the physicians in the several state institutions; to take steps to bring the family physician in close touch with the progress and treatment of his patients in the state hospitals; to inquire into the state's facilities for establishing a visiting staff of specialists to supplement the work of the resident hospital staffs; to encourage work in psychiatry, and allied works in the state institutions; and to institute methods of encouraging therapeutic enthusiasm, and breadth of the social point of view in the members of the staffs of the various institutions.

Medicolegal

Right to Recover Money Extorted to Protect Reputation

(Bertschinger v. Campbell (Wash.), 168 Pac. R. 977)

The Supreme Court of Washington reverses a judgment of dismissal and remands for a new trial this case, wherein the plaintiff sought to recover $1,025 alleged to have been unlawfully extorted from him by the defendant, and $125 as special damages incidental thereto. The court says that both parties were physicians, the plaintiff having lived thirty-three years in the city, where he practiced his profession and had built up a good practice. In December, 1912, a young man and a young woman called at his office and requested him to examine her with a view of determining certainly whether or not she was pregnant, they believing that she was then probably in that condition. The plaintiff was given to understand that, should he find the young woman pregnant, they desired that he perform an abortion on her. He consented to examine the young woman, but positively refused to perform any abortion on her. His examination convinced him that she was pregnant, and he so advised them. He then charged her $5 for making the examination. No abortion was performed on her by the plaintiff, and nothing further was ever done by him for her. But eleven days after the visit the plaintiff received from the defendant this letter:

"Dear Dr.: A young lady lays dying from septic condition and incomplete abortion. She has made a full confession, you are charged with the crime. The confession is in my possession. In event of her death it will be turned over to the police. Confession is witnessed. I do not think she can last more than a day or so, judging by her present condition. I am very truly," etc.

The plaintiff immediately talked the matter over with his wife, then called up the defendant on the telephone, and went twice to see him, the latter time accompanied by his wife, who carried the money, which had been specially procured, to pay the defendant. After the defendant had the money, he patted the plaintiff and his wife on the back and said the danger was all over; the girl wasn't in a very serious condition at all; he thought everything would come out right, and in the event of her death he would protect them.

The trial court, on the defendant's motion, at the close of the plaintiff's evidence, dismissed the case on the ground that the evidence introduced in the plaintiff's behalf was not sufficient to support any recovery against the defendant, in that it conclusively showed that he voluntarily paid the money to the defendant, or on the theory that it must be determined, as a matter of law, from the facts shown in the case, that the plaintiff could not recover because the money was not paid under such legal duress as the law requires to be proved to avoid a contract, in that the plaintiff was not charged with the commission of a crime in any proceeding instituted in court, nor was he threatened with immediate arrest or imprisonment. But the supreme court does not agree with that view. Nor does it think it likely that, on a new trial, the defendant would care to invoke the defense, suggested in oral argument, that the payment of this money, under the circumstances shown by the plaintiff's evidence, was, in effect, the compounding of a felony, and that the agreement was so tainted with wrong and illegality that the courts would not lend their aid to the enforcement of the right claimed by the plaintiff, since that would imply that the defendant was himself equally guilty of compounding the crime with which he charged the plaintiff, and would seem to be an admission on his part that the money was received, as well as paid, for that purpose. But even that theory would still leave open the question of the plaintiff's having paid the money under duress; and clearly it would have been erroneous for the trial court to have dismissed the action on the ground that the payment of the money was for the compounding of a felony, in view of the evidence produced in the plaintiff's behalf. If the contract or settlement was void because of duress, it was not a binding one under which the defendant could retain the fruits thereof, even though it was also a contract which, but for the duress, would have been against public policy and as such could not be the foundation of any right to be asserted in the courts.

Itemizing of Account and Application of Payments

(Duffy v. Kilroe (Miss.), 76 So. R. 681)

The Supreme Court of Mississippi, Division A, in rendering a decree in favor of plaintiff Kilroe for the amount for which he sued defendant Duffy, administrator, for professional medical services rendered to a Mrs. Botto, holds that the plaintiff's account was sufficiently itemized, and that, properly applying in the payments which had been made on it, no part of it was barred by the three-year statute of limitation of Mississippi. The court says that Mrs. Botto was a woman of wealth whose home was in Mississippi, but who spent several of the latter years of her life in the city of New York, during which time she was suffering from a disease because of which she demanded and received the daily professional services of the plaintiff. The services rendered by him continued over a period of several years, and Mrs. Botto would make him payments thereon at intervals, which payments were credited by him on his books to Mrs. Botto generally, neither she nor he applying them to any particular items of the account due him by her. Mrs. Botto died, May 15, 1914. On the 19th of that month the defendant was appointed administrator of her estate. Jan. 16, 1915, the plaintiff's account for the professional services rendered by him to Mrs. Botto was duly probated, registered and allowed; but the administrator declined to pay it, and this suit was instituted, June 16, 1915. The lower court erroneously held that the plaintiff was entitled to recover only about half of the sum sued for, on the ground that the remainder was barred by the three-year statute of limitation. The account probated was of this form:

Mrs. Frances M. Botto to Dr. Edward P. Kilroe, Dr.		
To professional medical services rendered to said Frances M. Botto by Dr. Edward P. Kilroe at her special instance and request		$31,684.00
Credits		20,085.00
Balance due		$11,599.00
Itemized Statement of Account.		
1908. April	Day Visits, $5.00. Night Visits,	$10.00
	63 visits at $ 5.00	$315.00
	4 visits at $10.00	40.00
		$355.00

The account was not filed with the chancery clerk at the time the bill of complaint was, but during the progress of the trial it was filed with and so indorsed by him. On objection being made that the account had not been made an exhibit to the bill, the court below permitted an amendment to be made thereto. Conceding, for the sake of the argument, that a copy of the account sued on should have been filed with and as an exhibit to the bill, there was no error in allowing the bill to be so amended as to refer to the account which was then on file, as exhibit thereto.

The objection was made that the account was not sufficiently itemized to comply with Section 2106, Code of 1906, Hemmingway's Code, Section 1774, as the dates of the plaintiff's visits to Mrs. Botto were not set forth. It was not necessary for the account to be so minutely itemized in order for the plaintiff to recover, but because of his failure to so itemize it, construing, as the court must, the account most strongly against him, the due date of each item thereof must be held to be the first day of the month in which it was charged, and the statute of limitation applied accordingly.

The payments made to the plaintiff by Mrs. Botto should have been applied to the oldest items of the account, and had this been done the plaintiff would have been entitled to a decree for the full amount claimed by him; for, under the facts presented, the statute of limitation ceased to run against the account at, and did not again commence so to do after, Mrs. Botto's death, and the payments made by her covered all of the plaintiff's charges for services rendered three or more years prior thereto. Under Section 3113, Code of 1906 (Hemmingway's Code, Section 2477), a debt not barred by limitation at the death of the debtor remains alive, in any event, for at least one year after the death of the debtor. If probated and registered within such year, the general statutes of limitation do not afterward run against it.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, New London, Conn., July 9-10.
Idaho State Medical Association, Seattle, July 17-19.
Massachusetts Medical Society, Boston, June 18-19.
Montana Medical Association, Butte, July 10-11.
New Jersey Medical Society, Spring Lake, June 25-26.
North Dakota State Medical Association, Fargo, June 19-20.
Oregon State Medical Association, Portland, June 27-29.
Southern Minnesota Medical Association, Winona, Minn., June 24-25
Washington State Medical Association, July 10.
Western Roentgen Society, Colorado Springs, June 27-28.

THE AMERICAN GYNECOLOGICAL SOCIETY

Forty-Third Annual Meeting, held at Philadelphia, May 16-18, 1918

The President, DR. JOHN G. CLARK, Philadelphia, in the Chair

Medical Teaching and Research After the War

DR. JOHN G. CLARK, Philadelphia: An adequate endowment or an annual budget of not less than $25,000 a year for salaries would render it feasible to combine the departments of obstetrics and gynecology. Some of the advantages of this plan are: (*a*) There will be less duplication of teaching in embryology and in the anatomy and physiology of the female reproductive organs. (*b*) The pathologic aspects of the two subjects could be correlated, making only one laboratory necessary. (*c*) As many of the diseases are referable to the child-bearing process, they may well be grouped under one head. (*d*) The opportunity is afforded of studying, in the obstetric department, the results of various operations and the remedial measures employed for the relief of gynecologic diseases.

When an endowment is not sufficiently large to equip fully and maintain a combined department in the most comprehensive way, or when special endowments for the maintenance of an obstetric and gynecologic department can be secured but are not large enough to allow the chief assistants and director to retire from private practice, such departments may be conducted more successfully as separate units, for the following reasons: (*a*) In a university medical school, special departments are likely to turn out a more refined product and to offer better instruction if the field to be covered is not too extensive. (*b*) When properly endowed, the department of gynecology may expand and enter the domain of general surgery. The chief function of the head of such a department is that of instructor in diseases of women and, in a minor rôle, of clinical teacher of abdominal surgery. (*c*) With separate chairs, more time can be given in the obstetric department to the teaching of the very important subject of diseases of nursing infants, a subject that is now receiving inadequate attention for the reason that the obstetrician has not time to devote to this branch.

Escape of Foreign Material from the Uterine Cavity into the Uterine Veins

DR. JOHN A. SAMPSON, Albany, N. Y.: A study of uteri in which the venous system has been injected with bismuth through the uterine and ovarian veins shows a rich venous plexus in the endometrium and also one in the myometrium, consisting of a peripheral and radial plexus. Arcuate veins between the two zones convey the venous blood to the uterine plexus between the layers of the broad ligament. Relatively large sinuses (receiving) radiate from the base of the endometrium into the myometrium, and convey the blood from the endometrial plexus into the deeper portion of the radial. If these receiving sinuses are exposed by removing the overlying endometrium, and the uterus is relaxed, thus holding the lumina of the receiving sinuses open, fluid and small solid material could easily escape from the uterine cavity into them and thence into the venous circulation outside the uterus. I believe that uterine contraction following relaxation, when there is obstruction in the cervical canal, and intrauterine irrigation, may bring about increased pressure and force fluid, sterile or containing bacteria in suspension or placental cells, into the venous circulation, and that this is one way, and probably a frequent one, by which puerperal infection arises and placental cells reach the lungs.

DISCUSSION

DR. GEORGE W. KOSMAK, New York: The work of Dr. Sampson is a striking demonstration that we ought to stay out of the uterus as much as possible, because the invasion of this organ, particularly in the puerperal state and at other times, is attended with a great deal of danger. Observations that I made some years ago with reference to the extrusion of irrigating fluid through the fallopian tubes demonstrated this to me in a dramatic manner.

DR. JOHN O. POLAK, Brooklyn: The demonstration of the protection of the endometrium against invasion from curetting the uterus is particularly impressive. Years ago we were taught not to operate during the menstrual period; yet, in the hurry of hospital work, we have violated that rule. Dr. Sampson has given us a clear idea of why in some cases we get infection.

DR. THOMAS J. WATKINS, Chicago: This paper is of great value in bringing before us positive evidence against curettage of the puerperal uterus, and this society should put itself on record against any such procedure. It is surprising and shocking that many men continue to curet and wash out the puerperal uterus. Dr. Sampson has presented an excellent argument against it. He emphasizes the danger of increasing infection by curettage, and especially increasing the dangers of doing hysterectomy a few days after the preliminary curettage.

DR. J. WESLEY BOVÉE, Washington, D. C.: The work of Dr. Sampson confirms what I have been doing in the last few years, namely, discarding frequent curettage, but, still clinging to the necessity of having to invade the uterine cavity, injecting iodin into it. In two specimens in which I injected iodin previous to removing the body of the uterus within ten days for gonorrheal infection, I found iodin in the blood channels in the uterine body, so that caused me to discard injections of iodin.

Effect of Hysterectomy on Ovarian Function

DR. EDWARD H. RICHARDSON, Baltimore: The uterus is not essential to a continuation of ovarian fuction, except as regards menstruation and reproduction. The disturbances of ovarian function attributed to hysterectomy are partly those associated with normal menstruation and partly those arising from damage to the ovary through operative trauma or disease. The weight of evidence furnished by anatomic, experimental and clinical investigations is overwhelmingly in favor of retention of sound ovaries both before and after the menopause age.

DISCUSSION

DR. HOWARD A. KELLY, Baltimore: It is best to conserve the ovaries or as much of healthy structures as may be retained in women who are under 40. In women of 40 or 42 it is best not to be so conservative. In the past we have decidedly overdone conservatism. If we can conserve either ovary and a portion of the uterus and keep up menstruation, if only for a year or two, it is a great advantage.

DR. WALTER W. CHIPMAN, Montreal: Every effort should be made to care for the circulation of the ovary that is left behind. I plead guilty of not in the past having been sufficiently careful in this respect. I certainly am conservative in the matter of the ovary. If we can tell a woman after an operation that her sexual organs are preserved, it is a great psychologic comfort to her. It goes without saying that when the ovaries are diseased they should be removed. I have given up the resection of diseased ovarjes.

DR. HENRY T. BYFORD, Chicago: It is important not to pay so much attention to the symptoms of the menopause. It is well not to enumerate these symptoms to patients, but to give them ovarian substance or extract; when they know they are getting it, the psychologic condition will be kept up, which is so necessary in these cases, and there will be less operating. With a little treatment and good advice, I do not think we shall have to do quite so much surgery.

(*To be continued*)

ASSOCIATION OF AMERICAN PHYSICIANS

Thirty-Third Annual Meeting, Held at Atlantic City, N. J., May 7-8, 1918

(*Concluded from page 1791*)

Bacteria of the Intestinal Tract

DR. W. W. FORD, Baltimore: The gram-positive bacteria found in dejecta were found to be aerobic forms due to ingestion of milk, water, etc., and occurred in foods on which children are usually nourished. Gram-positive spore-bearing bacteria were normal to the intestinal tract. Anaerobic cultures were always negative. No encapsulated forms were present above the ileocecal valve. Below this valve there were present encapsulated gram-positive organisms of the morphology of the gas bacillus. In Baltimore milk there were present spore-forming gas bacilli. In the neutralized whey were found hemolytic substances due to bacteria. These were toxic for rabbits and guinea-pigs in subcutaneous inoculation. If the whey was filtered, the filtrate was also toxic. Milk cultures of the gas bacillus were always poisonous to animals. Work is now being done to determine whether this organism is vegetative in the intestinal tract and whether it bears any relation to the production of scurvy by the feeding of children with pasteurized milk.

DISCUSSION

COL. W. H. WELCH, Baltimore: Has toxin been demonstrated in the milk, and, if so, was the carbohydrate content of the milk reduced? The reason the toxin is often overlooked is that if the carbohydrate is not changed the acid formed is destructive to the toxin. Search for the toxin must be made after the reduction of lactose.

MAJOR SIMON FLEXNER, New York: The factor influencing the degree of toxicity of the cultures that Dr. Ford has described is the control of the carbohydrate. There are differences at present unknown in the toxin-producing powers of the various strains of the Welch bacillus. Dr. Bull found one strain which was very superior to the others in antitoxin-producing power. In regard to milk cultures, the toxin-producing power must be determined not only in milk but also in other mediums.

DR. W. W. FORD, Baltimore: I have tried two methods of increasing the toxicity of the milk cultures, to get milk whey in which lactose was taken away, but the gas bacillus did not multiply well in milk of that character; and to neutralize the acidity of the milk by the addition of powdered chalk. I found that the filtrate from such milk cultures was more marked in toxicity. In the study of pasteurized milk we were forced to limit observations to study of such organisms as might be obtained from this source. The gas bacillus obtained from soil and other sources would be more poisonous than that from milk. The variation of toxicity in strains was marked. It is premature as yet to attempt to answer the question as to whether pasteurized milk ever develops poisonous properties. In the majority of cases the gas bacillus exists in the intestinal tract in spore form, but observations so far do not indicate that there is any vegetation there. Probably the same thing holds good for the tetanus bacillus.

Practical Value of Diphtheria Toxin-Antitoxin Injections in Immunization after Three Years

DR. WILLIAM H. PARK, New York: No death has occurred in 10,000 cases of immunization; four cases of collapse happened. Within the last six months no untoward results have been seen. Twenty per cent of children have shown a slight rise of temperature. From one to three units are given with perfect safety. In regard to the duration of immunity, it would seem as if artificial immunity in 80 per cent. of cases will be as perfect as natural immunity. Immunity has not dropped off more than 2 per cent. in two years. If it should be lost the child can be immunized again with equal effectiveness.

Studies of Chronic Myocarditis

DR. H. A. CHRISTIAN, Boston: In the recent studies of the heart by means of the electrocardiograph, there has been a tendency to emphasize the importance of the valve lesion rather than myocardial function. Most cases of myocardial insufficiency are called "mitral" insufficiency. The thickened valve is not differentiated from that with the orifice enlarged. The pathologist terms such cases myocarditis as have lesions demonstrable at necropsy, whereas the physician uses the word to mean myocardial insufficiency. Cabot some years ago found that only 22 per cent. of the diagnoses of chronic myocarditis, made during life, were correct at necropsy. My experience is that fewer mistakes are made in this diagnosis than in others. In analyzing the cases we found that there was a great frequency in incidence above 41 years. In 407 cases, 112 gave a history of rheumatism; 35 had a positive Wassermann; 110 were chronic users of alcohol; 178 had high blood pressure; one half the cases had chronic nephritis. Overeating as a factor was difficult to estimate, but 188 persons were overweight. The condition is evidently a very common one; the change is primarily in the heart muscle. The cause has not been determined. At necropsy a large percentage showed no changes in the coronary valves and no enlargement.

DISCUSSION

DR. H. S. PLUMMER, Rochester, Minn.: We must consider if there is damage to the heart by overloading, either by high blood pressure or hyperthyroidism. The latter is a very common cause of myocardial insufficiency. I have recognized that one third of the cases are due to adenomas of the thyroid. These probably originated in fetal rests. These patients run a metabolism from 30 to 50 per cent. above normal, and this drops to normal with the removal of the adenoma. Blood pressure in these cases is due to increased minute volume flow through the right heart.

DR. E. LIBMAN, New York: One should try to find a cause for the myocardial insufficiency. If a history of rheumatism is present there may be a true myocardial lesion, but with syphilis the disease would be arterial. With diffuse atherosclerosis of the coronary system there must be muscular lesions to get myocardial insufficiency. One must see if the patient was anemic. Transfusion has often removed the cause of myocardial insufficiency. Bleeding fibromas, thyroid disease, etc., may be the underlying cause of myocardial insufficiency.

DR. A. STENGEL, Philadelphia: Myocardial insufficiency and myocarditis are two different things. In hyperthyroidism the patient is suffering from myocardial poisoning, but not necessarily from myocardial disease. The diagnosis of acute myocardial disease is exceedingly difficult to make. In the absence of evidence of valvular disease one is justified in saying myocardial disease, but many of these cases clear up when some focus of infection is removed, proving that the myocardial symptoms were but a manifestation of the toxemia.

A Study of the Empyemas at Camp Upton

MAJOR H. BROOKS, M. R. C., and MAJOR R. L. CECIL, M. R. C.: We had a very virulent type of empyema. The cases were all associated with pneumonia. The disease was also associated with measles, but not with mumps. The causative germ was the streptococcus in 50 per cent. of cases, and in the other 50 per cent. the pneumococcus. Patients with pneumococcus empyema recovered after operative treatment. There were 49 cases of streptococcus empyema, with a mortality of 61 per cent. Of the four *Streptococcus viridans* cases, three patients died; four were mixed infections with streptococcus and pneumococcus, with no deaths. Of 35 hemolytic streptococcus cases, 22 patients died. The empyema seemed in each case to be a concomitant infection of the pleural sac. With the entrance into camp of a large contingent of colored troops the percentage of hemolytic streptococcus infections increased. With very careful isolation of cases there was found to be no diminution of occurrence. In the bronchial type of infection there was very little cough, very little sputum was raised, and very little pleuritic pain. The chief symptom throughout was prostration. The diagnosis was made by aspiration, confirmed by the roentgen-ray findings, and the changes in percussion were an important sign. The exudate in these cases had the appearance of alkaline urine and generally contained streptococci. Pericarditis usually developed early in these

cases and was progressive, but there was lack of metastases elsewhere. Of 27 cases that came to necropsy, 23 were streptococcus cases. The pulmonary lesion showed interstitial bronchopneumonia, of the type described by Cole. Pneumothorax was also present. As regards treatment we found that early operations were fatal. It seems essential to wait till the pus becomes cellular in character, when operation can be performed safely.

DISCUSSION

DR. H. A. CHRISTIAN, Boston: In civil practice we had practically the same experience as has been reported in Army cases. Very frequently the streptococcus was the etiologic factor. The cases were the interstitial type of bronchopneumonia. Experience shows that fatalities occurred from too early operative interference. Some patients got well with repeated tappings of the fluid. The pneumonias had a tendency to shift in type and at first we were much disturbed with atypical forms, until we found that frequently we had to deal with the streptococcus.

COL. W. H. WELCH, M. R. C., Baltimore: In civil practice streptococcus infections are most important. There existed at first a period of great confusion in regard to these cases. Investigations were then made by Drs. Zinsser and Dochez which brought out clearly that the streptococcus was the most important cause. At one camp the cases seemed to be due to the *Streptococcus viridans* and it was a question as to what had imparted to this streptococcus these unusual properties. What reasons have played a part in enhancing the virulence of the streptococcus? This is the most important problem today in dealing with infections of soldiers. In life the pulmonary lesion is frequently so mild as not to be recognized. In the infection through the respiratory tract the streptococci make way rapidly to the pleural passages, but no doubt they leave one or more small foci of the disease which can be detected on careful examination.

MAJOR R. L. CECIL: In regard to the pneumococcus, cases were found with Type II in the sputum and Type IV in the pleural fluid. Of the streptococcus group four cases had shown nonhemolyzing streptococci. These were recognized as *S. viridans*. In the types of cases with mixed infection there was a mortality of 60 per cent. Often there were streptococci in the pleural field and pneumococci in the sputum. Empyema patients have plus cells in the fluid. Many cases showed localization between the left lung and pericardium and this probably explained the frequency of pericarditis.

MAJOR E. P. JOCELIN: Of fifty-five patients operated on, seven died. Operations were by simple drainage and no ostectomies were done. Twenty patients died without operation. In many cases several cavities were involved.

Hemosiderin Granules in Cells of the Urine: An Aid to the Diagnosis of Pernicious Anemia and Hemochromatosis

DR. PEYTON ROUS, New York: In a soldier 46 years of age, with lesions of hemochromatosis, the diagnosis between this disease and syphilis was doubtful. There was enlargement of the liver and spleen and a peculiar gray pigmentation of the skin. The urine was found to contain considerable hemosiderin granules. The patient died within six months with characteristic signs of hemochromatosis. Fresh urine should be used for this test.

Thrombosis of the Coronary Artery

DR. J. B. HERRICK, Chicago: Death need not immediately follow obstruction of the coronary artery. Cases may be divided arbitrarily into four groups: (1) those with instantaneous death; (2) those in which death soon follows; (3) those in which death occurs weeks or months later; (4) a hypothetic group in which symptoms are very slight, being merely an obstruction of the twigs of the artery. The third group is important. In such cases patients frequently have had angina pectoris and they describe the occurrence of the coronary obstruction as the most acute and prolonged attack they ever had. The pain usually is referred to the epigastrium. Occasionally it simulates an acute abdominal syndrome, and careful differentiation is necessary as unnecessary operations are sometimes performed. In regard to experimental work on this subject, the ligation of the coronary artery in dogs has been done and the electrocardiogram studied. Dogs can live weeks and months after the ligation and may finally recover. In the experimental ligations the lesions were produced in the myocardium. They were most marked in the endocardial or subendocardial locality, or conductive region of the heart. Such phenomena as auricular or ventricular fibrillation were produced with changes in the electrocardiogram in the T-wave.

DISCUSSION

DR. GEORGE DOCK, St. Louis: I had a patient, a man, aged 61, who had never had occasion to consult a doctor for any illness and had been doing active work for forty years. He was a big eater but took little exercise. He was apparently vigorous, but medical men would look on him as arteriosclerotic. He denied syphilis and had no scar, but the Wassermann was ++++, and it was found that he had a marked arteriosclerosis. After a Christmas dinner he was returning to his house and while climbing a small hill he felt a very severe pain radiating down the left arm; he was obliged to stop. The physician who attended him said it was angina pectoris with high blood pressure, and gave him nitroglycerin. The man went to work until January 6, when he had another attack and was brought to the hospital. He had air hunger to a marked degree and the larynx worked with extreme violence. Morphin and atropin relieved his symptoms. He never got over the orthopnea. Later he developed hydrothorax. Dr. Robinson took the electrocardiogram and without knowing that a diagnosis of coronary thrombosis had been made, he stated that the absence of the T-wave would suggest coronary obstruction. The patient died of double hydrothorax twenty-three days after the first angina pectoris attack. Postmortem examination showed very marked syphilitic arteriosclerosis. There was thrombosis of the descending coronary with an infarct three weeks old.

DR. S. J. MELTZER, New York: It should be kept in mind that human cases are not identical with experimental ligation cases. One cannot be sure that the ligation was thorough enough or permanent enough. Ligation is not the same as thrombosis. It would be well to repeat the old experiments from a new light—to occlude the coronary artery with ligation.

DR. H. A. CHRISTIAN, Boston: In cases with symptoms below the diaphragm, which simulate abdominal conditions, a diagnostic point is the remarkable fall in systolic blood pressure. The diastolic pressure is little altered. The pulse pressure is strikingly small. In cases in which thrombosis takes place with very few symptoms, the patient, while sick, does not present a characteristic picture and his sudden death causes surprise.

Myrtol and Eucalyptol Poisoning

DR. LEWELLYS F. PARKER, Baltimore: In view of the fact that myrtol (a preparation closely allied to eucalyptol) is being used in the treatment of putrid bronchitis, it is worth while to mention that symptoms of poisoning have been recorded from these preparations. Myrtol and eucalyptol are both derivatives of myrtaceous plants. Eucalyptol poisoning has followed both overdoses and small doses of the drug, and it appears that some persons may have an idiosyncrasy to it. Two different syndromes have been noted in the after-effects—first, nervous system involvement with collapse; second, dermatitis. In the nervous type the patient becomes seriously ill shortly after the dose. Vomiting, diarrhea and coma may follow. Vomiting must be induced to prevent further absorption of the poison. Skin lesions are often associated with the nervous lesions. Several fatalities have been reported from time to time. A greatly increased use of eucalyptol has resulted from its employment as a solvent for the neutral hypochlorite solution, dichloramin-T.

Comparative Food Value of Protein, Fat and Alcohol in Diabetes Mellitus as Measured by the Nitrogen Equilibrium

DR. H. O. MOSENTHAL, Baltimore: In our experiments we desired to maintain the protein tissue in spite of using a carbohydrate free diet. The patient was put on 1,000

calories with a constant proportion of protein and fat. Then 500 calories of protein, fat or alcohol were added. Three periods were used—fat period, alcohol period, protein period. Finally there was a control period. On 1,000 calory diet there was a constant loss of nitrogen. With an additional 500 calories of fat there was no great improvement in the nitrogen balance. The fat was assimilated, but did not spare the protein. The same held true with alcohol. The alcohol possibly saved the body fat but not the nitrogen. The results with protein addition were strikingly different. The positive nitrogen balance was very marked indeed with 1,500 calories. Two patients who did not take the alcohol did not get the results. The fat and alcohol had been used to conserve the fat of the body, while the protein preserved the protein even on the protein and fat diet.

Relation of War Wounds to Acute Endocarditis

DR. H. T. KARSNER, Cleveland: I performed eighty-eight necropsies in a military hospital. Fourteen cases showed lesions of acute endocarditis following septicemia and pyemia. The organisms responsible were mostly streptococci. Three showed the *Staphylococcus aureus*. In one case the *B. perfringans* was found in the blood stream at death. These infections followed multiple extensive wounds, not of any particular type, but in cases in which an attempt was made to save the injured parts and the wound was allowed to drain pus for weeks and weeks. In the effort to save the joint, extensive damage was done to the heart and kidneys. In the later months of the war, an effort was made to determine whether the age of the soldier and the length of his term of service had any influence on these conditions. It was found that if the man was less than 27 years of age and had less than twenty-two months' service, the kidney weight and the heart weight were normal. The principal factor seemed to be the length of service, prolonged service leading to a great increase in the weight of the heart.

Trench Fever

DR. EUGENE L. OPIE, St. Louis: This paper is the result of studies by Drs. Strong, Swift, MacNeal and Pappenheimer and myself. Two problems were studied: (1) infectivity of the blood: Of sixteen men inoculated with infected whole blood, fifteen developed trench fever. Of five inoculated with clear plasma, all contracted the disease. The corpuscles of the blood, then, does not carry the infection. Inoculations of plasma passed through a Berkefeld filter does not cause infection. Filtered virus, then, does not produce the disease. The inoculation period was from five to twenty days. The second problem was to determine whether lice transmitted the disease. Of twenty-two volunteers, bitten by infected lice, fourteen developed the disease. Eight volunteers, not bitten, did not develop the fever. Lice from trench fever patients were put on the volunteers and kept there thirty days till the fever developed. After forty-eight hours lice were removed from half of the volunteers and put on other volunteers, to exclude the possibility of mechanical transmission, directly from patient to individual. It was proved that the virus carried the infection. The lice were put on the arm in a piece of old undershirt, so that eggs and larvae were reproduced normally, and these were strapped on; the men were allowed to scratch so that normal skin irritation was produced. The inoculation period after biting was from nineteen to twenty-five days as compared with from five to six days with the plasma infection. The conclusions from these experiments were that (1) direct transmission is not essential; (2) if lice carry the disease, measures should be taken to combat it by eradication of lice; (3) the eradication of lice and by this means, eradication of the disease, is not impracticable.

DISCUSSION

DR. FUTCHER, Philadelphia: I had an opportunity to see cases of trench fever in an English base hospital. Distressing nocturnal pain was a symptom of the disease. Sir David Bruce conducted some experiments in the Hampstead hospital. He found that if 500 lice that had bitten trench fever patients were allowed to bite volunteers, the results were negative as far as transmission of the disease was concerned. It was not stated how long the lice had fed on trench fever patients. In discussing these experiments it was asked if the patients had been allowed to scratch and it was found that they were prevented from scratching. Another series of experiments were then started. The arms of the volunteers were scarified. The lice were allowd to bite and the bodies of the lice were rubbed into the abraded surface. In seven days the volunteers developed trench fever. The experiments, however, as far as the biting was concerned, were not so conclusive as are those of Dr. Opie. It seems possible that there may be two modes of transmission—by the bite and by the excrement of the lice getting rubbed into the abraded surface. It is found in the trenches that lice leave the body of a trench fever patient and go to a healthy person. It is also necessary to determine whether the disease is transmitted from one to another by lice or whether it is a disease of the louse itself.

DR. E. L. OPIE, St. Louis: I have tried scarification experiments. It seems to add little to the knowledge obtained by injecting whole blood; but there is obviously a possibility of introducing the virus directly through the skin. The incubation period of seven days corresponds to that when whole blood is injected into the circulation.

MISSOURI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jefferson City, May 6-8, 1918

DR. ROBERT E. SCHLUETER, St. Louis, in the Chair

Sterility Due to Retrodisplacement of the Uterus: Treatment

DR. E. LEE DORSETT, St. Louis: The following have an important bearing: 1. Careful history taking and repeated examinations of both husband and wife to eliminate all other causes of the existing sterility. 2. The use of nonoperative measures before resorting to operative procedures. The use of both methods is oftentimes more successful than one alone. 3. The fallacy of the benefit of a curettement in cases of sterility; the injury to the endometrium caused by a curettement; care in the use of sounds and pessaries. 4. Selection of the operation to correct the condition of the cervix and the uterine displacement. 5. Importance of the after-treatment of all cases and reexamination after the patients leave the hospital.

Vaginal Drainage in Pelvic Cases

DR. FRANK HINCHEY, St. Louis: Vaginal drainage, by the use of a tube through the culdesac, is not resorted to as frequently as it should be. The measure is absolutely safe and efficient and, perhaps, saves lives when the operator is in doubt as to whether or not he should drain. The indications for its use are: (1) When a suprapubic drain seems to be indicated; (2) when the intestine, a ureter or the bladder has been injured; (3) when a piece of suspicious tissue must be left in the pelvis, or infectious product has escaped; (4) when there has been much loss of blood—much traumatism, as in severe pus cases of ruptured ectopic pregnancies.

Though Yates has shown the futility of drains placed in the general peritoneal cavity, because of the formation of adhesions around the drain, the vaginal route possesses the advantage of being favored by gravity, and as the drain projects only a small distance into the peritoneal cavity the adhesions which nullify the usefulness of a suprapubic drain do not form. While, perhaps, it is not good surgery to use the vaginal route to attack abscess formations in the culdesac, because of the doubt of removing all of the trouble, cases occasionally arise in which this seems the only safe measure. But I disapprove of the opening of the vagina to evacuate abscesses, and immediately follow this with an abdominal section. Pelvic infections following pregnancy should, as a rule, be opened through an incision above Poupart's ligament because of danger of invasion of the general cavity. A split rubber tube, with gauze insert, is sewed with catgut at the opening in the culdesac and permitted to remain a week, or until the suture is absorbed. No douches are given.

Can We Disregard the Calendar in Setting the Date for Labor?

DR. F. T. VAN EMAN, Kansas City: I have believed for years that one great source of trouble is the unfavorable proportion existing between the mother's pelvis and the child's head. Finally, taking advantage of the McDonald and Ahlfeld plans of estimating the maturity of the fetus, I began to induce labor at or near term, when the rights of the fetus seemed surely conserved, with results that seem very promising.

Passing of the Curet, or the Conservative Treatment of Abortion

DR. GEORGE C. MOSHER, Kansas City: In 1914 I became convinced that gynecologists had led the profession astray in regard to curettage. In my service all these patients are put in a modified Fowler position, given a large dose of magnesium sulphate, and an ice bag is applied to the abdomen. In the beginning the cases were differentiated as to streptococcus, staphylococcus or colon bacillus, but after a short experience no attempt has been made to discriminate.

The results of this conservative plan are remarkable. Taking 100 cases from the records of 1910 to 1914 when the curet was employed almost as a routine practice, the number of days in the hospital was 22.3. Now, in our new series the average is 8.5 days, a saving to the taxpayers of two weeks' expense on each patient, not to mention the benefit to the patient herself. The percentage of complications under the old régime was 70, including cellulitis, inflammation of the adnexa, abscess, and other forms of localized or general infection; under the new operative method complications are reduced to 5 per cent. The only indication for interference is hemorrhage, and the degree is to be weighed by the obstetrician. Packing under aseptic conditions is the treatment. Pituitary solution has not seemed to exert much influence in these cases, but it is not contraindicated. When used it should be given in dose of from ⅕ to ⅓ c.c. hypodermically. Morphin may be allowed, but only as necessary to relieve pain

The Hodgen Splint in the Treatment of Fractures of the Femur

DR. C. F. SHERWIN, St. Louis: The Hodgen splint has proved highly efficient in the treatment of all fractures of the femur, at least above the lower third, and when properly applied and adjusted gives results vastly superior to most other appliances for such fractures. It is simple in construction and practically painless in application; requires no anesthetic or other procedure for "setting" the fracture, as the bone fragments are automatically pulled into place by the gentle traction, and the limb is kept at a constant length, easily verified and controlled by occasional measurements. It affords maximum comfort to the patient, permitting him to move about the bed, or even to another bed, lift his hips or even his body, and recline on the back rest or even sit up, if desired. It permits of observation and massage of the limb at all times, and of having any wounds dressed, all without the least pain to the patient or danger of injury to the limb.

The Hodgen Extension Suspension Splint

DR. F. G. NIFONG, Columbia: The Hodgen splint was never popularized as it should have been. All types of simple fracture of the femur, and likewise fractures with lacerated and septic wounds are successfully treated with the Hodgen splint. Modifications are easily made to meet various requirements. Simplicity characterizes the Hodgen splint. It immobilizes the site of fracture; it produces the necessary extension, which is the most important of all factors in treating long bones; it secures suspension, which is a factor of great value in wound treatment and of much comfort to the patient; it prevents muscle injury and paralysis by putting the limb at perfect rest in physiologic flexion; it mobilizes the limb as well as the patient, a very important consideration, especially in the aged; it is applicable to every form of fracture from the neck of the femur to the foot, simple and compound. As an emergency and transport splint the modification of the Hodgen splint cannot be excelled.

Painful Feet

DR. ROBERT MCE. SCHAUFFLER, Kansas City: Shoe manufacturers have in recent years put on the market a number of styles of shoes, or appliances to put in shoes, supposed to be designed on orthopedic principles, and many retail shoe shops have a clerk who is styled an orthopedic specialist to prescribe for foot ills. These devices are not entirely devoid of merit, but in view of the effort made to create the impression that an orthopedic clerk is sufficient for almost all foot problems, I have thought it would be of interest to study a series of consecutive cases of painful feet. Omitting all cases in which the foot trouble was only a part of the general disability of infantile paralysis or spastic paralysis, or of a multiple arthritis, and omitting congenital clubfoot, there remain eighty cases. These fall under thirty-nine heads. The three largest divisions are: Weak feet, eight; simple flatfoot, eight; flattened metatarsal arch, ten. This seems to demonstrate the need of scientific diagnosis and special treatment.

The Small Hospital in Rural Places

DR. N. I. STEBBINS, Clinton: Small hospitals may be made as efficient as large ones. Physicians associated with such institutions may be able to specialize along certain lines. They may have the privilege of roentgen-ray and laboratory work to assist in making a diagnosis, thus enabling them to do better work and obtain better results. The people should be educated to make more use of hospitals throughout the rural districts. The size of a hospital should not be a feature in the consideration of classification, but equipment, efficiency of the staff, and the records should be a basis for criticism.

Treatment of Cavernous and Plexiform Angioma

FRANCIS REDER, St. Louis: A cavernous angioma is a soft, nonpulsating swelling, of variable size, with a thin covering of skin, usually bluish. Its great differential factor is that the entire tumor can be caused to disappear on pressure, with a prompt return to its original size as soon as the pressure is removed. Not so with a plexiform angioma. Pressure on the mass will not cause it to be evacuated completely. Well marked pulsation and bruit give it its differential characteristics from a cavernous angioma. In my series of 104 cases which have been treated by injection of boiling water, there were no failures. In most instances the results have been very gratifying. In the majority of the cases the lesion was on the face and scalp. Four patients presented angiomas on the tongue, ranging from the size of a filbert to that of an English walnut. One patient presented a lesion as large as a coconut on the left gluteal region.

Prostatic Enucleation

DR. LEON ROSENWALD, Kansas City: By enucleating the growth from the prostate there is very little hemorrhage, and the ejaculatory ducts are not injured. The two-step operation should be a routine measure. Cystotomy should be done under local and enucleation under spinal anesthesia. The latter is safer, gives more relaxation than general anesthesia, and avoids the suppression that follows ether. Furthermore, the ability of the patient to take large quantities of water immediately following the operation encourages kidney action.

Myositis Ossificans Traumatica

DR. T. G. ORR, Kansas City: The symptoms of the type due to a single severe trauma are marked pain, rapid swelling and disability, followed in three or four weeks by a firm mass in the swollen area. The diagnosis is not usually difficult but must be distinguished from periosteal sarcoma. The prognosis is ordinarily good. After a few months of disability the bone formation ceases to increase in size, and there is usually some resorption of bone. The treatment should be conservative if there is not serious interference with function. After early operation there is very frequently a recurrence of the growth. I have had three cases, one a typical "rider's bone," one an ossification in the Achilles tendon following an open wound in childhood, and the third a typical example of intramuscular ossification in the quadriceps following a single severe injury while playing football.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

May, 1918, **24**, No. 1

1 Cell Potentialities and Differential Factors, Considered in Relation to Erythropoiesis. V. Danchakoff, St. Louis.—p. 1.
2 Development of Idiosome in Germ Cells of Male Guinea-Pig. G. N. Papanicolaou and C. R. Stockard, New York.—p. 37.
3 Weight of Epididymis, Pancreas, Stomach and Submaxillary Glands of Albino Rat (Mus Norvegicus Albinus) According to Body Weight. S. Hatai, Philadelphia.—p. 71.
4 Megacytes in Lymphatic Tissues. A. W. Meyer.—p. 91.
5 Studies on Hemal Nodes. Absence of Hemal Nodes in Domestic Fowl. A. W. Meyer.—p. 109.

American Review of Tuberculosis, Baltimore

May, 1918, **2**, No. 3

6 Nerves and Ganglia of Lung in Case of Pulmonary Tuberculosis. W. S. Miller, Madison, Wis.—p. 123.
7 Manifest Pulmonary Tuberculosis. G. E. Bushnell.—p. 140.

Annals of Surgery, Philadelphia

May, 1918, **67**, No. 5

8 *Operative Treatment of Fracture of Spine Uncomplicated by Cord Injury. E. G. Brackett, W. J. Mixter, Boston, and J. C. Wilson, Los Angeles, Calif.—p. 513.
9 *Surgery of Spastic Paralysis. A. B. Gill, Philadelphia.—p. 529.
10 Case of Contracture of Bladder (Hypertonia Vesicae) Due to Spinal Injury. M. W. Ware, New York.—p. 533.
11 Loose Cartilage in Temporomaxillary Joint. R. J. Behan, Pittsburgh.—p. 536.
12 Prevention of Permanent Bronchial Fistula Following Lung Resection. H. Lilienthal, New York.—p. 538.
13 *Effect of Splenectomy on Normal Individual and in Certain Pathologic Conditions. J. M. Hitzrot, New York.—p. 540.
14 *Value of Pyloric Exclusion in Treatment of Pyloric and Duodenal Ulcers. R. Lewisohn, New York.—p. 560.
15 *Immediate Jejunal Feeding After Gastro-Enterostomy. A. F. R. Andresen, Brooklyn.—p. 565.
16 *Developmental Reconstruction of Colon. J. W. Draper, New York.—p. 567.
17 Case of Omphalomesenteric Duct; Intestinal Obstruction. M. T. Sudler, Rosedale, Kan.—p. 575.
18 Closure of Abdominal Incision with Silver Wire. C. G. Child, Jr., New York.—p. 578.
19 *Composite Study of Hypogastric Artery and Its Branches. B. Lipshutz, Philadelphia.—p. 584.
20 Case of Fracture of Great Toe Sesamoid Bones. T. G. Orr, Kansas City, Mo.—p. 609.

8. **Treatment of Fracture of Spine.**—A study of twenty-five cases made by Brackett, Mixter and Wilson is strongly in favor of early operative action in cases of fractures of the spine. A large percentage of the cases which could be followed showed partial and even complete disability for years after the injury, many of which had prolonged mechanical treatment by fixation and support. It would seem, also, that the continuance of the mechanical support after a few months does not materially influence the result, but was of value in giving added comfort while wearing such support. This fact alone, namely, the failure of mechanical treatment, would seem to warrant active radical measures, provided the operative methods give reasonable assurance of benefit, and provided the indications for operation could be formulated. On the other hand, the results of early operative treatment, in the cases which have been watched would seem to indicate definitely that early operation is a measure to be advocated in a very large number of cases. The writers suggest operation in the cases which show the following conditions: 1. Fresh fracture: (*a*) Crushed fracture of the bodies of one or more vertebrae associated with disalinement of fragments, particularly with involvement of any part of the lamina; (*b*) fracture of the fifth lumbar, of any part, but particularly with involvement of the lamina; (*c*) fracture of body showing increasing knuckle, abnormal mobility at point of fracture, or complicated with rupture of the supraspinous or interspinous ligaments. 2. Old fracture cases which show the persistent disability, as evidenced by inability to work, accompanied by continuance of pain, local or referred, and with general back weakness, operation is advocated. Operation in the decade between fifty and sixty does not seem to be contraindicated. The social position may at times have influence in directing for or against operation, for when the most rigid early care can be given, much more might be expected from early fixation treatment. Freedom from pain, however, in the early weeks of recumbent and fixation treatment, may be misleading, for it is possible, that even with the relief of all symptoms during the period of recumbency, the pain may return and cause disability when the patient becomes ambulatory and begins to use the spinal column. A very severe injury and perhaps extensive crush may result in a quicker and more complete recovery than in some of the apparently lesser ones.

9. **Surgery of Spastic Paralysis.**—Gill has performed thirty-five Stoeffel operations on the popliteal, the sciatic, the obturator, and the median nerves. The results have been so satisfactory that the operations have been done routinely. In several instances a second operation was performed, when it was found that too little of the nerve supply had been resected at the first operation. It is better to resect too little than too much. In operations on the lower extremity the results have appeared to be almost uniformly successful and satisfactory. In resections of the median nerve of the arm the results are not functionally so good, although the cosmetic results are satisfactory. Following operation the after-treatment should be thorough and persistent in educating the weakened muscles and in securing coordination.

13. **Effects of Splenectomy.**—Hitzrot summarizes what is known about the anatomy, the physiology, and the clinical features of splenic disease, with special reference to the effect of splenectomy both in the normal and in the pathologic animals as gained by observations in seventeen cases of splenectomy (sixteen personal cases; one case reported by Conner and Downes). The series contains seven cases of splenomegaly of varying types (splenic anemia [Banti's], three; splenomegaly of unknown type with anemia, one; hematogenous jaundice, two; von Jaksch's anemia, one), two cases of pernicious anemia and one case of splenomyelogenous leukemia. Of the three cases of Banti's disease, one patient was markedly improved for nine months and then, due to the increasing cirrhosis of the liver, developed ascites, and in the fourteenth month a mesenteric thrombosis from which he died. The second splenectomy for Banti's disease is now six months past the operation, and is in splendid health and without symptoms. The third patient is serving in the army. As for the case of splenomegaly with anemia the patient has shown no change in weight since the operation. Her general health has improved, and three years after operation she reports that she is well but has a small baby and could not appear for examination. Both cases of hemalogenous jaundice have recovered from the symptoms which existed before the operation performed three and one half and eight years ago.

Following the splenectomy done for von Jaksch's anemia there was a rapid rise in the hemoglobin and in the red cells, which has remained permanent. The white cells showed no definite change following the splenectomy, and such changes as did occur took place in the polymorphonuclears, which rose in two weeks to approximately the normal polynuclear percentage (before operation they were only 25 per cent. of the white cells). One month after operation, hemolysis began at 0.50 and was complete at 0.38. Nine months after operation hemolysis began at 0.44 and was complete at 0.28, showing a marked increase in the resistance of the cell. The most striking feature of this particular case was the shower of nucleated red cells which was noted twelve hours after the operation. At one time (five days after operation) the nucleated red cells represented 85 per cent. of the nucleated cells in the smear. The child rapidly improved both in weight and height on exactly the same diet she had had before the operation, and in this case the effect of the splenectomy was even more striking than that procedure in the acholuric jaundice cases. The anemias in which there is a disturbance of blood formation cannot be benefited by splenectomy, inasmuch as the trouble does not lie in the spleen, but in the blood forming organs.

14. **Value of Pyloric Exclusion in Ulcers.**—Experiments performed by Lewisohn demonstrated *ad oculos* the efficient way in which pyloric exclusion sidetracks food. The changes produced in the chemistry of the stomach after gastro-enterostomy were not considered in these experiments. It is a well known fact that, following a gastro-enterostomy, bile and pancreatic juice are regurgitated through the stoma into the stomach, thus diminishing the hyperacidity considerably. This change of the chemism of the stomach is of the utmost importance. Lewisohn believes that improvements in the clinical condition after gastro-enterostomy without pyloric exclusion are based solely on the changes of the chemistry of the stomach. Gastro-enterostomy plus pyloric exclusion is however far superior to simple gastro-enterostomy. It gives the patient the benefit of the chemical changes just mentioned and, in addition to that, it safeguards the ulcers against mechanical insults, thus hastening the healing of the ulcer-bearing area

15. **Immediate Jejunal Feeding After Gastro-Enterostomy.**—Andresen has found that it is practicable, at the time of operation, to insert a previously swallowed Rehfuss gastro-duodenal tube well into the jejunum and to commence at once, on the operating table, the feeding of peptonized milk, dextrose and alcohol mixtures, thus making sure that the nourishment administered actually is made use of by the body. Andresen considers that immediate jejunal feeding after gastro-enterostomy is not only a safe, but an extremely valuable, procedure and is to be recommended not only in the operations performed for stenosis but should be tried in all types of cases, as being a more certain, and, in most cases, a less uncomfortable method of postoperative administration of fluid and nourishment than the methods ordinarily employed.

16. **Developmental Reconstruction of Colon.**—In twenty-nine human cases of developmental reconstruction of the colon five have died, a mortality rate of 17 per cent. Four deaths occurred in the first eight cases. One death in the last twenty. Draper and his co-workers resected the terminal 10 cm. of the ileum and the cecocolon in block to the neighborhood of the right colic artery. This corresponds to a point on the transverse colon near to the right margin of the omentum. Indications for developmental reconstruction: 1. Segmental infection of the cecocolon. 2. In Lynch's elbow deformity of the mid-ascending colon when the peritoneum cannot be repaired after reduction. 3. In exaggerated non-fusion of mesentery, allowing such freedom of motion as occasionally to result in volvulus. Developmental reconstruction has superseded in their clinic all the earlier forms of operative procedure such as ileocolostomy, cecosigmoidostomy, etc., because it is no more dangerous operatively and gives better results because it removes the biologically decadent and diseased organ and restores the individual to the carnivorous type of colon undoubtedly best suited to man.

19. **Study of Hypogastric Artery.**—This paper, the third of the blood vascular tree studies, presents a composite study of the hypogastric (internal iliac) artery, and is based on records and observations made from dissections of ninety-three cadavers. There were ninety-one dissections of the hypogastric artery on the right side of the body and ninety dissections on the left side, making 181 dissections in all. Section A of this paper presents observations on the point of bifurcation of the aorta, and the length and point of bifurcation of the common iliac and hypogastric (internal iliac) arteries. Section B contains a description of the types of hypogastric artery. Section C embraces a description of the individual branches of the hypogastric artery. Section D summarizes and discusses the results of the study.

Archives of Internal Medicine, Chicago

May, 1918, **21**, No. 5

21 *Experiments on Vasoconstrictor Action of Blood Serum. T. C. Janeway, H. B. Richardson and E. A. Park, Baltimore.—p. 565.
22 *Relation Between Platelet Count of Human Blood and Its Vasoconstrictor Action After Clotting. K. Hirose, Okayama, Japan.—p. 604.
23 *Clinical Calorimetry: Effect of Small Breakfast on Heat Production. G. F. Soderstrom, D. P. Barr and E. F. Du Bois, New York.—p. 613.
24 Id.: Metabolism of Boys Twelve and Fourteen Years Old. W. H. Olmstead, D. P. Barr and E. F. Du Bois, New York.—p. 621.
25 *Id.: Metabolism in Malarial Fever. D. P. Barr and E. F. Du Bois, New York.—p. 627.
26 *Study of Ethylhydrocuprein (Optochin) in Treatment of Acute Lobar Pneumonia. H. F. Moore and A. M. Chesney, New York.—p. 659.
27 *Circulatory Reactions to Exercise During Convalescence from Infectious Disease. H. Mann, New York.—p. 682.
28 *Occurrence of Mitochondria in Red Blood Corpuscles During Experimental Anemias. C. O. Sappington, San Francisco.—p. 695.

21. **Blood Serum as Vasoconstrictor.**—The power of blood after clotting or defibrination to constrict blood vessels, as evidenced by its action on perfused organs or on the excised arterial strip, has been frequently observed and to some extent studied as to its nature and origin. The study made by Janeway, Richardson and Park consisted of the vasoconstrictor substance in relation, first, to unclotted blood; second, to the cellular and noncellular elements of the blood; third, to certain biologic, physical and chemical reactions; and lastly, to the process of coagulation. The results of this investigation may be summarized as follows: Uncoagulated blood of the ox or calf has no constrictor action on the excised strip of the ox carotid. Blood platelets of ox, dog or pig yield an extract which has a powerful vasoconstrictor action. Erythrocytes yield no vasoconstrictor substance. Leukocytes, as represented by the cells of the pleural exudate of the dog, yield none. Plasma can be obtained free of vasoconstrictor substance. Its constrictor action, when present, is probably due to changes occurring after it leaves the blood vessels. The circulating plasma of normal animals has probably no such vasoconstrictor action. The vasoconstrictor substance (or substances) is neither protein nor epinephrin. It is a crystalloid more readily extracted by water or alcohol than by ether or chloroform, and is probably not related to cholesterol. The vasoconstrictor substance, though present in coagulated blood, is not dependent on the actual formation of the blood clot, nor is it related to any of the factors concerned in coagulation, with the possible exception of thromboplastin.

22. **Platelet Count and Vasoconstriction.**—Fourteen experiments were performed by Hirose in which blood from twenty-eight patients was examined. These experiments were performed by bringing the defibrinated blood into contact with the surviving carotid of the ox suspended according to Meyer's method and registering its degree of constriction on a revolving drum by means of a magnifying lever. In these experiments bloods of about equal platelet counts produced approximately the same degree of vasoconstriction. With one exception, bloods of higher platelet count produced more marked constriction than bloods of much lower platelet count. This one exception was the blood from a case of polycythemia with a count of 314,000, compared with blood from a case of chronic nephritis with a count of 189,000. The difference in platelet content here is relatively slight. Of nine specimens of blood with a platelet count less than 100,000 only three produced any constriction of the artery when diluted with two volumes of Locke's solution, and only four when diluted with equal parts of Locke's solution. Two of these were from cases of pernicious anemia, one from a case of cirrhosis of the liver, and the fourth from a case of myeloid leukemia.

23. **Effect of Small Breakfast on Heat Production.**—Ten experiments were made by Soderstrom and his associates on five subjects to determine the extent of the rise in metabolism following a small meal. The standard breakfast used in all observations consisted of 30 gm. bread, 8 gm. butter, 10 gm. sugar, and 60 c.c. milk, amounting to 4.7 gm. protein, 9.0 gm. fat, and 28.9 gm. carbohydrate, or 222 calories. In the first hour following the ingestion of this the heat production increased on an average 7 per cent.; in the second hour, 2 per cent.; in the third hour, 2 per cent. In the sixth, seventh and eighth hours the metabolism was slightly lower than before the breakfast. It is evident that when this small

amount of food is taken for breakfast it is only during the first hour that the absorption of food could have been in sufficient quantity to produce the condition of a "metabolism of plethora."

25. **Metabolism in Malarial Fever.**—Seven observations were made by Barr and Du Bois on five patients when they were without fever. Four of these were in the intervals between the paroxysms; three after treatment. In all cases the methods of direct and indirect calorimetry were use. For the total series of experiments the calories, as measured by these two independent methods, agree within 0.08 per cent. of each other. The rectal temperature, which was measured every four minutes, showed typical malarial curves. Rectal temperature falls much more gradually than it rises. The surface temperature at first may continue to rise, then to fall gradually for a period, and later to fall at about the same rate as the rectal temperature. The heat production increases 100 to 200 per cent. during the chill; immediately after the chill it falls to within 20 to 38 per cent. of the average basal level; with the falling temperature the heat production drops to normal. During the period before the chill with constant temperature the heat elimination equals the heat production. During the chill, in spite of the enormous increase in heat production, the heat elimination is the same as in the preliminary period. Almost all of the extra heat produced is stored in the body tissues. In the fourth period of rising temperature after the chill there is a slight increase in heat elimination. In the fifth period of continuous temperature heat elimination begins to equal heat production. In the sixth period of falling temperature the heat elimination is greatly increased, chiefly by means of a large increase in the vaporization of water from the skin. Of the total calories produced in this period the patient loses a much larger percentage than normal through vaporization. On the other hand, the percentage of calories lost through vaporization is not greatly increased in its relationship to the total heat elimination. The respiratory quotients during the chill are higher than before or after the chill, suggesting the rapid combustion of glycogen stores during the violent muscular exercise of shivering.

26. **Ethylhydrocuprein in Treatment of Pneumonia.**—Moore and Chesney present the data accumulated in an extension of their former work and give the final results of two years' experience in the treatment of lobar pneumonia with ethylhydrocuprein. The experimental results obtained during the first year have been, for the most part, confirmed by the study of cases treated during the second year, and, in addition, some new facts have been ascertained. Of the forty-three patients treated with ethylhydrocuprein during the season 1916-1917, two received the base (optochin base) by mouth. Forty received the hydrochlorid by mouth and one patient received the hydrochlorid intramuscularly at first, and later by mouth. The serum of the two patients who received the base by mouth failed to show either bactericidal activity or power temporarily to inhibit the growth of pneumococci, although the amount of the drug given should have been sufficient to produce such a result if the base were as readily absorbable as the hydrochlorid. The authors suggest that the difficulty of absorption from the gastro-intestinal tract is undoubtedly dependent on the fact that the drug in this form is very slighly soluble. During treatment with ethylhydrocuprein pneumococci in the human body can gradually become "fast" or resistant to its action. The pericardial fluid obtained postmortem from patients treated with ethylhydrocuprein hydrochlorid showed pneumococcidal power. The serum of one patient who received a very large dose of ethylhydrocuprein hydrochlorid intramuscularly showed pneumococcidal power.

Among seventy-five patients treated with ethylhydrocuprein there were nine who showed some degree of amblyopia (12 per cent.); this was mild in three cases and more severe in six. In all those who recovered from the pneumonia, the eye symptoms disappeared completely after the administration of the drug had been discontinued. The systematic use of ethylhydrocuprein (optochin) in the treatment of seventy-five cases of acute lobar pneumonia due to pneumococci did not lead to any noteworthy therapeutic benefit. The authors suggest that the failure of the ethylhydrocuprein treatment to influence favorably the course of the disease is probably due to the following: (*a*) It is impossible to administer a sufficient amount of the drug to produce an effective concentration in the blood stream without at the same time exposing the patient to the danger of toxic action. (*b*) The rate of the pneumococcidal action of ethylhydrocuprein is too slow in the concentrations which may be attained in the blood stream of the patient with any degree of safety; pneumococci, therefore, may gain access to the circulating blood at a greater rate than they are destroyed therein, even though the serum show pneumococcidal action. (*c*) In the concentrations which are safely attained in the body fluids the drug probably penetrates but poorly into the alveolar exudate. The routine use of ethylhydrocuprein in the treatment of acute lobar pneumonia cannot be recommended.

27. **Circulation During Convalescence.**—The circulatory reactions of ten patients convalescing from acute infectious disease were studied objectively by Mann. The pulse reactions did not give any information of value. The blood pressure reactions, however, showed a progressive increase in the amount of work necessary to produce a "delayed summit."

28. **Mitochondria in Red Cells in Anemia.**—Increased formation in the number of mitochondria containing red cells was produced experimentally by Sappington by the removal of blood or by the injection of phenylhydrazin hydrochlorid. The degree of this increase was in the individual case roughly proportional, and on the average exactly proportional, to the need for red cells as measured by the degree of anemia produced. These experiments, therefore, support the suggestion that the number of red cells containing mitochondria may prove to be a useful indication of the rate of red blood cell formation in clinical and experimental conditions.

Boston Medical and Surgical Journal

May 23, 1918, **178**, No. 21

29 Relation of Physician to Workmen's Compensation. F. D. Donoghue, Boston.—p. 693.
30 Application of Anaphylactic Skin Tests to General Medicine. S. Ayres, Jr., Boston.—p. 697.
31 Differential Diagnosis in Psychiatry; Comparison of Symptoms in Various Disease States. L. G. Lowrey, Boston.—p. 703.
32 Structural Deformities vs. Functional Efficiencies as Objects of Treatments. H. W. Marshall, Boston.—p. 708.
33 Beginning of Dispensaries. M. M. Davis, Jr., Boston, and A. R. Warner, Cleveland.—p. 712.
34 Relation of Ductless Glands to Gynecology; Physiologic and Therapeutic. A. H. Bigelow, Boston.—p. 715.

Colorado Medicine, Denver

May, 1918, **15**, No. 5

35 Surgical Treatment of Anemias. F. C. Buchtel, Denver.—p. 114.
36 Bronchoscopy and Esophagoscopy. T. E. Carmody, Denver.—p. 119.
37 Achylia Gastrica. J. L. Mortimer, Denver.—p. 123.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

April, 1918, **11**, No. 3

38 *Circulation in Man in Head Down Position, and Method for Measuring Venous Return to Heart. Y. Henderson and H. W. Haggard, New Haven, Conn.—p. 189.
39 *Influence of Forced Breathing on Circulation. Y. Henderson, A. L. Prince and H. W. Haggard, New Haven, Conn.—p. 203.
40 *New Method for Biologic Standardization of Pituitary Extract and Other Drugs. R. A. Spaeth, New Haven, Conn.—p. 209.
41 *Effect of Lactic Acid on Respiratory Center. S. J. Cohen, Chicago.—p. 221.
42 *Cutaneous Irritation by Mustard Oil as Influenced by Various Solvents. T. Sollmann, Cleveland.—p. 229.
43 *Investigations on Composition of Oil of Chenopodium and Anthelmintic Value of Some of Its Components. M. C. Hall and H. C. Hamilton, Detroit.—p. 231.
44 *Pharmacologic and Therapeutic Study of Benzyl Alcohol as Local Anesthetic. D. I. Macht, Baltimore.—p. 263.

38. **Circulation in Man in Head Down Position.**—The author's object was to determine whether in the normal man an increase of the venous pressure and the venous supply to the heart can be produced by means of the inverted positions and if so whether they will increase the diastolic filling and

the systolic discharge of the ventricles, and the volume of the blood in circulation. In the inverted or head down position (30 to 45 degrees) the heart rate in ten men was slower than in the flat position by an average of 9.5 beats a minute (maximum 23, minimum 4.5), and slower than in the erect position of 17 (maximum 34, minimum 10). The diastolic distending force of venous pressure was increased but arterial pulse pressure was not augmented. This fact the authors interpret in support of the view that normally in the erect position the distending force of venous pressure is above the critical value, and the heart works therefore at maximum efficiency for the rate of beat. No third heart sound was audible in the inverted position. The necessity of recognizing some sort of venopressor mechanism regulating the venous return to the heart is pointed out. A method estimating the efficiency of the venous return is described. By this method it is found that a very distinct decrease in the volume of the venous return is generally induced in man by anesthesia and operation, and occurs also in acute disease.

39. **Influence of Forced Breathing on Circulation.**—The results obtained on six healthy men who had had some practice in the performance of voluntarily forced breathing were very clear and decisive. 1. Venous pressure in the inverted position after forced breathing underwent in every case a very marked and strikingly long continued fall, amounting to 8 to 11 c.mm. blood. Recovery did not occur in any case until many minutes after apnea had terminated. 2. The arterial pressures, systolic, diastolic and pulse, were not greatly affected. 3. The tachycardia which forced breathing usually induces was suppressed by the inverted position. 4. Evidently the disturbance of the circulation induced in man by acapnia consists chiefly and fundamentally in a decrease of the venous return to the heart. The evidence seems to be well rounded out that this type of circulatory depression is a very common occurrence under anesthesia and operation and in some other conditions.

40. **Standardization of Pituitary Extract.**—This test consists of a study of the action of the drug on the melanophores of Fundulus which, Spaeth says, must be considered functionally modified smooth muscle cells, thus opening a new approach to various pharmacologic problems, including that of biologic drug standardization.

41. **Effect of Lactic Acid on Respiratory Center.**—In a series of forty-four determinations on ten dogs, Cohen noted that intravenous injections of 0.5 c.c. of normal lactic acid per body kilogram weight produce a marked increase in respiration, both in amplitude and in rate. The action was almost immediate, with a latent period of fifteen to thirty seconds and with a duration of two to four minutes. This response is not specific for lactic acid, but may be produced by practically any organic or inorganic acid. Cohn suggests that the mechanism of this hyperpnea probably involves three factors: (*a*) the acid may liberate carbon dioxid from the blood carbonates, and the excess carbon dioxid may play some part in the excessive movement; (*b*) the acid may act as a direct respiratory stimulant; (*c*) probably the most important factor, the acid sensitizes the respiratory center. The reaction is most probably due to a synergistic action of the acid and carbon dioxid on the respiratory center.

42. **Cutaneous Irritation by Mustard Oil as Influenced by Various Solvents.**—Sollmann says that olive oil and other good solvents for mustard oil hinder its penetration into the skin. The greatest irritation is obtained by watery suspensions, for instance, in mucilage. Olive oil and turpentine produce practically no hyperemia; ether and absolute alcohol produce very little hyperemia; 95 per cent. alcohol causes a distinct hyperemia, whereas 50 per cent. alcohol causes marked and lasting hyperemia; mucilage of acacia and simple syrup cause the most intense and persistent hyperemia.

43. **Composition of Oil of Chenopodium.**—The experiments made by Hall and Hamilton appear to warrant the conclusion that oil of chenopodium as ordinarily marketed is a very potent and valuable anthelmintic, but that it not infrequently acts as a gastro-intestinal irritant, a fact that seems to have been commonly overlooked, disregarded or allowed to go unstated. The gastro-intestinal irritation seems to be due to constituents making up a fourth, or less, of the volume of the oil. The use of the lighter fraction as an anthelmintic in preference to the entire oil, in order to protect the patient from gastro-intestinal irritation, is apparently indicated.

44. **Pharmacologic Study of Benzyl Alcohol.**—Experimental data and clinical cases show that benzyl alcohol is an effcient local anesthetic when administered in aqueous solution. This alcohol is soluble up to 4 per cent. in water in physiologic saline. These concentrations appear to be entirely efficient for practical purposes. The interesting features in connection with this drug which should be especially emphasized are in the first place its low toxicity as compared with that of the commonly employed local anesthetic alkaloids of which cocain is the standard representative. The next interesting and important feature in connection with benzyl alcohol as an anesthetic is the ability of the organism to metabolize it and excrete it in an innocuous form. Third, an important feature of this local anesthetic is its high boiling point and the consequent ease of sterilization. Last, the comparatively low price of the drug and its ease of production.

Maine Medical Association Journal, Portland

May, 1918, **8**, No. 10

45 Orthopedic Treatment of Infantile Paralysis. A. T. Legg, Boston.—p. 275.

Medical Record, New York

May 25, 1918, **93**, No. 21

46 Method and Organization of Reeducation for War Cripples in Germany. D. C. McMurtrie, New York.—p. 881.
47 Direct Examination of Duodenal Contents in Affections of Gallbladder and Allied Organs. M. Einhorn, New York.—p. 885.
48 Adiposis Tuberosa Simplex; Report of Three Cases. J. M. Anders, Philadelphia.—p. 888.
49 Health School Child; Schenectady's System of Keeping Him Healthy. W. J. Brooks, Schenectady.—p. 890.
50 Waste Caused by Preventable Disease of Intestinal Origin. V. G. Heiser, New York.—p. 897.

Medicine and Surgery, St. Louis

March, 1918, **2**, No. 3

51 Psychopathology and Criminology. W. J. Hickson, Chicago.—p. 245.
52 Shell Shock Analogues; Neuroses in Civil Life Having Sudden or Critical Origin. M. C. Jarrett, Boston.—p. 266.
53 Analysis of Accuracy of Early Psychiatric Diagnoses. L. G. Lowrey, Boston.—p. 281.
54 Diagnosis of Acute Psychotic Conditions. D. Gregg, Wellesley, Mass.—p. 290.
55 Neurosis of Housewife. A. Myerson, Boston.—p. 294.
56 Mental Health of Our Future Citizens. E. B. McCready, Philadelphia.—p. 304.
57 Sensory Aphasia, Associated with Right Lateral Homonymous Hemianopsia. J. H. Lloyd, Philadelphia.—p. 312.
58 Fractures of Skull; Resulting Intracranial Pathology and Treatment. W. Sharpe, New York.—p. 319.
59 Case of Syringomyelia with Bulbar Symptoms. E. F. Leonard, Chicago.—p. 334.
60 Obsessive Hallucinations in Child and Psychanalysis. A. Gordon, Philadelphia.—p. 344.
61 Symptomatic Psychoses. C. L. Allen, Los Angeles.—p. 350.
62 How Far Can the Mind Really Influence the Body? M. Solomon, Chicago.—p. 357.
63 Limitations of Psychiatrist. J. Taft, New York.—p. 365.
64 Posttyphoid Headache. E. H. Cary, Dallas.—p. 370.
65 Case of Homicidal Dementia Praecox. G. H. Hill, Des Moines, Iowa.—p. 374.

Mental Hygiene, Concord, N. H.

April, 1918, **2**, No. 2

66 Concerning Prisoners. B. Glueck, New York.—p. 177.
67 Adjustment of Jew to American Environment. A. A. Brill, New York.—p. 219.
68 City School District and Its Subnormal Children; Some Social Problems Involved and Suggestions for Constructive Work. C. M. Campbell, Baltimore.—p. 232.
69 Returned Disabled Soldiers of Canada. W. L. Russell, White Plains, N. Y.—p. 245.
70 Barriers to Treatment of Mental Patients. O. Copp, Philadelphia.—p. 254.
71 Vocational Rehabilitation of Soldiers Suffering from Nervous Diseases. F. H. Sexton.—p. 265.
72 Economic Loss to State of New York on Account of Syphilitic Mental Diseases During Fiscal Year Ending June 30, 1917. H. M. Pollock, New York.—p. 277.
73 Psychiatric Social Work. M. C. Jarrett, Boston.—p. 283.

New York Medical Journal

May 25, 1918, **107**, No. 21

74 Hyperacidity of Gastric Secretion as Prime Factor in Attacks of Angina Pectoris. H. Illoway, New York.—p. 961.
75 Standard Methods in Diagnosis and Treatment of Venereal Diseases in Public Dispensaries. H. Emerson, New York.—p. 968.
76 Vaccine Therapy in Chronic Intestinal Toxemia. G. R. Satterlee New York.—p. 971.
77 Some Aspects of Symptomatic Treatment. E. E. Cornwall, New York.—p. 974.
78 Relation of Fresh Air and Housing to Health. F. F. D. Reckord, Harrisburg, Pa.—p. 976.
79 Treatment of Flatfoot. F. R. Newman, Wheeling, W. Va.—p. 978.
80 Choosing the Anesthetist. I. Josephson, New York.—p. 979.
81 Gallstones. S. Weiss, New York.—p. 980. To be continued.
82 Ascending Osteomyelitis in Amputation Stumps with Particular Reference to Thigh. A. Marchand, Lyons, France.—p. 985.
83 Rehabilitation of Disabled Soldiers in New Zealand. D. C. McMurtrie, New York.—p. 986.
84 Some Problems of Nutrition in Army. J. R. Murlin.—p. 987.

New York State Journal of Medicine

May, 1918, **18**, No. 5

85 Value of Routine Examination of Labyrinth. I. H. Jones, Philadelphia.—p. 169.
86 Direct Laryngoscopy in Treatment of Chronic Postdiphtheritic Laryngotracheal Stenosis. H. L. Lynah, New York.—p. 170.
87 Diphtheria in New York State. F. M. Meader, New York.—p. 177.
88 *Floating Kidney, Nephropexy. S. Lloyd, New York.—p. 181.
89 Some Complications and Incorrect Diagnoses in Urologic Surgery. O. S. Lowsley, New York.—p. 184.
90 Common Problems in Diabetes Mellitus. J. R. Williams, Rochester.—p. 191.
91 *Study of Urine in Diabetes Mellitus with Special Reference to Relation of Urinary Acetone Bodies to Ammonia Excretion. J. H. Richards, New York.—p. 193.
92 Abortion and Its Treatment. A. J. Rongy, New York.—p. 196.

88. Abstracted in THE JOURNAL, June 9, 1917, p. 1779.

91. **Urine in Diabetes Mellitus.**—The total number of cases studied by Richards is fourteen. The total number of urine examinations is ninety-one. The diet in this series of cases was the von Noorden test diet or, in a few cases a mixed diet such as is known as "regular diet" in Bellevue Hospital. Twenty-eight observations showed urinary acetone bodies with high ammonia and normal rest nitrogen. Four observations showed urinary acetone bodies with normal ammonia and high rest nitrogen. Fourteen observations showed urinary acetone bodies with high ammonia and high rest nitrogen. Eight observations showed no urinary acetone bodies with high ammonia and normal rest nitrogen. Two observations showed no urinary acetone bodies with high ammonia and high rest nitrogen. Fifteen observations showed no urinary acetone bodies with normal ammonia and high rest nitrogen. Eight observations showed urinary acetone bodies with normal ammonia and normal rest nitrogen. Twelve observations showed no urinary acetone bodies with normal ammonia and normal rest nitrogen. Hence it is apparent that there may be an increased excretion of ammonia in the absence of urinary acetone bodies; and there may be a normal excretion of ammonia with urinary acetone bodies. The quantity of sugar excretion has no relation to the ratio of the nitrogen content of urine. In many cases of diabetes there is a disturbance of the ratio of the nitrogen content of the urine which may be corrected by regulating the nitrogen intake, but no correction of the urinary sugar nor of the urinary acetone bodies will correct this nitrogen disturbance.

Social Hygiene, Baltimore

January, 1918, **4**, No. 1

93 Venereal Diseases and War. W. C. Gorgas, Washington, D. C.—p. 3.
94 Campaign Against Commercialized Prostitution Near Military Camps. B. Johnson.—p. 9.
95 California Program for Prevention of Venereal Diseases. W. A. Sawyer, San Francisco.—p. 25.
96 Venereal Diseases and War. W. C. Gorgas, Washington.—p. 39.
97 Venereal Diseases in Civil and Military Life. F. F. Russell.—p. 43.
98 Have We Devised an Effective Medical Propaganda of Venereal Prophylaxis? R. C. Holcomb.—p. 47.
99 Program of Commission on Training Camp Activities with Relation to Problem of Venereal Disease. R. B. Fosdick.—p. 71.
100 Community Control of Venereal Diseases. J. W. Kerr, Washington.—p. 77.
101 Venereal Disease in Civil Community. W. H. Frost.—p. 81.
102 Social Hygiene and War. P. B. Johnson, Washington, D. C.—p. 91.

Southern Medical Journal, Birmingham, Ala.

May, 1918, **11**, No. 5

103 *Usefulness of Blood Chemical Methods in Differential Diagnosis of Cardiac and Renal Disease. R. B. H. Gradwohl and C. Powell, St. Louis.—p. 335.
104 Pollinosis or Hay-Fever; Its Specific Treatment. S. R. Miller and W. A. Baetjer, Baltimore.—p. 341.
105 Trichocephalus Dispar. S. B. Strong, Preston, Cuba.—p. 345.
106 Râles After Expiration and Cough as Means to Early Diagnosis in Tuberculosis. B. L. Taliaferro, Catawba Sanatorium, Va.—p. 347.
107 *Physical Status of Juvenile Delinquents Based on Physical and Clinical Examinations of Children in Reformatories of City of New Orleans. E. Bass and M. Loeber, New Orleans.—p. 349.
108 Advantages of Sanitarian to Railroad. A. E. Campbell, Chicago.—p. 355.
109 Surgical Work at Casualty Clearing Station. T. H. Goodwin, London.—p. 363.
110 Importance of Recognizing Weakness or Obliteration of Conjoined Tendon in Operations for Inguinal Hernia. J. C. Bloodgood, Baltimore.—p. 366.
111 *Rôle of Syphilis in Surgery. G. Gellhorn, St. Louis.—p. 369.
112 Large Multiple Intravescical Adenoma of Prostate. G. F. Lydston, Chicago.—p. 372.
113 Spondylitis Chronica Ankylopoietica. W. Allan and J. W. Squires, Charlotte, N. C.—p. 373.
114 New Tonsil Guillotine. G. Sluder, St. Louis.—p. 380.
115 Some Rare Complications of Acute Mastoiditis with Unusual Symptoms. W. T. Patton, New Orleans.—p. 381.
116 Removal of Foreign Bodies from Eyeball and Orbital Cavity; Report of Cases. D. Roy, Atlanta, Ga.—p. 386.
117 Value of Classics as Part of Studies Preparatory to Medicine. L. F. Barker, Baltimore.—p. 391.

103. **Usefulness of Blood Chemical Methods in Diagnosis of Cardiac and Renal Disease.**—After a rather extended experience with the blood chemical findings in both primary cardiac and renal conditions in their earlier manifestations, and after having been able to check the clinical diagnosis by the so-called retention tests, Gradwohl and Powell tried out these methods in actual practice in a class of severe cases. The blood was taken in the morning before breakfast whenever possible, received into oxalate of potassium, defibrinated, and examinations were made at once. The following methods were used: Marshall for urea nitrogen; Folin modified by Benedict for uric acid; Folin for creatinin, and the Benedict and Lewis for sugar. The necropsy records, when obtainable, corroborated in each instance the blood chemical findings on which the differential diagnosis was made. In the cardiac cases there was practically no increase in the nonproteid nitrogenous constituents, though the urine in each case showed albumin and casts. The renal cases all showed a marked increase in these blood constituents, particularly in respect to one case which had 108 mg. urea nitrogen, 9.8 uric acid, 4.48 creatinin, and 0.148 per cent. sugar. All of the cases showed marked increase in uric acid. The urine showed albumin and casts, just as it did in the cardiac cases By these tabulated figures alone the authors are able to differentiate with exactitude the difference between the cardiac case and that primarily renal. In other words, laboratory data in this mixed group of cases were sufficient to point the way to the correct diagnosis, and the institution of the proper treatment.

107. Abstracted in THE JOURNAL, Dec. 22, 1917, p. 2143.

111. Abstracted in THE JOURNAL, Dec. 15, 1917, p. 2066.

United States Naval Medical Bulletin, Washington, D. C.

April, 1918, **12**, No. 2

118 Search for Nonphysical Standards for Naval Aviators. R. P. Parsons.—p. 155.
119 Organization and Equipment of Navy Hospital Units. T. W. Richards.—p. 184.
120 Examination of Eight Thousand Five Hundred and Eighteen Men for Meningococcus Carriers, at U. S. Naval Training Stations, San Francisco. P. S. Rossiter and A. J. Minaker.—p. 195.
121 Laboratory Detection of Carriers of Meningococci at U. S. Naval Training Stations, Great Lakes, Ill. C. W. Barrier and R. M. Choisser.—p. 205.
122 Control of Diphtheria Carriers and Suspects, City Park Barracks, Brooklyn. G. B. Whitmore and P. B. Welch.—p. 212.
123 Commissary Work at U. S. Naval Hospital, Mare Island, Calif. R. E. Weaver.—p. 217.
124 Preparation of Colloidal Gold. F. G. Speidel and J. W. Smith.—p. 220.
125 Substitute for Sailor's Hammock. C. P. Kindleberger.—p. 251.
126 Automatic Drinking Cup Sterilizer. W. L. Mann.—p. 253.
127 Handling of Fracture Case at Sea. C. C. Kress.—p. 257.

128 Case of Death Following Injection of Salvarsan. R. A. Bachmann. —p. 262.
129 Case of Syphilis of Lung. A. B. Davidson and E. Callaway.—p. 266.
130 Case of Fracture of Os Calcis. G. S. Whiteside.—p. 267.
131 Extraction of Supernumerary Tooth. W. A. Cauch.—p. 270.

Supplement

132 Field Sanitation: for Members of Hospital Corps Serving with Marines. W. L. Mann.—p. 7.
133 Local Treatment of Burns and Scalds. L. C. Sims.—p. 21.
134 Operating Room. G. F. Cottle.—p. 32.
135 Contagious Case. J. S. Taylor.—p. 37.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

April, 1918, **22**, No. 11

1 Therapeutic Influence of Roentgen Rays on Female Pelvic Disease. J. Phillips.—p. 333.
2 Pharyngeal Pouches. N. S. Finzi.—p. 342.
3 Intensifying Screen; Its Properties and Uses. T. T. Baker.—p. 352.

Brain, London

December, 1917, **40**, Part 4

4 Symptoms of Acute Cerebellar Injuries Due to Gunshot Injuries. G. Holmes.—p. 461.
5 Changes in Electrical State of Body and Their Relation to Nervous System. W. M. Bayliss.—p. 536.

British Journal of Children's Diseases, London

January-March, 1918, **15**, Nos. 169-171

6 Intermittent Fever from Meningococcal Septicemia. A. Netter. —p. 1.
7 Juvenile Consumption and School Attendance. W. C. Rivers. —p. 6.
8 Hemangiectatic Hypertrophy of Limbs—Congenital Phlebarteriectasis and So-Called Congenital Varicose Veins. F. P. Weber. —p. 13.
9 Two Cases of Pneumococcal Meningitis. G. Panayotabon.—p. 18.
10 Clinical Notes on Megacolon. C. G. Cumston.—p. 21.
11 Conditions Simulating Disease Which May Be Produced by Teething. J. Burnet.—p. 26.
12 Primary Sarcoma of Lung. J. P. Parkinson.—p. 28.
13 Herpes Zoster of Arm and Hand in Infant. G. Pernet.—p. 30.
14 Surgical Treatment and Cure of Suppurative Otitis Media Chronica in Childhood. J. B. Horgan.—p. 31.
15 Case of Anaphylaxis. G. H. Waugh.—p. 37.

British Medical Journal, London

April 27, 1918, **1**, No. 2991

16 Selection of Abdominal Cases for Operation. O. Richards.—p. 471.
17 Abdominal Operations at Advanced Operating Center. C. F. M. Saint.—p. 473.
18 Abduction Splint for Femur. D. W. Crile.—p. 476.
19 Method of Citrated Blood Transfusion. O. H. Robertson.—p. 477.
20 *Destruction of Nits of Clothes Louse by Solutions of Cresol Soap Emulsion and Compound Solution of Cresol. A. W. Bacot and L. Lloyd.—p. 479.
21 Simple Hot-Air Appliances for Field Units. C. M. Page.—p. 480.

May 4, 1918, **1**, No. 2992

22 Cerebral Edema (Excess Cerebrospinal Fluid). L. B. Rawling. —p. 499.
23 Removal of Worm (Filaria Loa) from Eye. R. H. Elliot.—p. 502.
24 *Prognosis in War Nephritis. R. G. Abercrombie.—p. 504.
25 Invalid Rations. E. I. Spriggs.—p. 505.
26 Case of Prompt Recovery After Nerve Suture. J. W. Heekes. —p. 507.
27 Special Crutch for Men Who Have Lost Both an Arm and Leg. R. L. Joynt.—p. 508.

20. **Destruction of Nits of Clothes Louse.**—Bacot and Lloyd found that the compound solution of cresol (crude phenol and soft soap emulsion) solutions are decidedly more effective than the cresol soap emulsion solution at the higher temperature but less so at 32 F. The difference in the latter case is not great, and may possibly be largely, if not entirely, a matter of chance, dependent on uncertainty of action at low temperatures. An interesting feature of the series is the regular rise in the percentage of lice which die while hatching as the action of the solutions become less fatal up to a midpoint, when it again declines to a minimum in proportion as the hatching ceases to be checked owing to the weakness of the solutions. It is a matter of question whether death during escape from the egg is due to the action of the fluids on the eggshell, or to a want of robustness in the larvae. The evidence as a whole seems to establish the fact that steeping for twenty minutes in a 2 per cent. solution, either compound solution of cresol or the cresol soap, is quite effective provided the temperature is not below 50 F.

24. **Prognosis in War Nephritis.**—With the aid of the Medical Research Committee the subsequent history has been investigated by Abercrombie in an unselected series of 171 cases of war nephritis. During their initial stage the cases had been under his care in a base hospital in France, to which they were admitted between April, 1915, and February, 1916, inclusive. Their after-histories have been traced until November, 1917—that is, for periods varying from twenty-one to thirty-two months. Their initial stage was an acute illness, exhibiting albuminuria with edema. Six deaths occurred. Thirty-two men were invalided as permanently unfit on account of nephritis, thirty-one were discharged to some form of duty. Of these 131 cases, twenty-two subsequently either relapsed or showed chronic renal symptoms, and were ultimately invalided for nephritis; the remaining 109 showed no further history of the disease.

Glasgow Medical Journal

April, 1918, **89**, No. 4

28 Sympathetic Ophthalmia. J. A. Wilson.—p. 193.
29 Anesthesia in General Practice. J. P. Boyd.—p. 201.
30 *Case of Partial Hereditary Anonychia. F. Charteris.—p. 207.

30. **Partial Hereditary Anonychia.**—Charteris' patient was a man, aged 34 years, who was admitted to the infirmary suffering from trench fever. It was noted that the nails of the thumbs, forefingers and second fingers of both hands were entirely absent, and those of the ring fingers only developed as regards the ulnar half. The little fingers had complete normal nails. A similar condition was present in the toes, the three inner toes lacked nails, the fourth toe had a rudimentary nail, while the little toe was furnished with a normal nail. While the fingers show absolutely no indication of any attempt at nail formation, in the toes there are distinct grooves indicating the nail beds. In the fingers the area normally covered by the nails showed concentric markings, similar to the markings normally present on the palmar aspects of the terminal phalanx. The congenital absence of the nails was a hereditary defect in the patient's family. It could be traced back to his great grandmother; and of his own four children, two show the exactly similar abnormality, while the other two have normal nails. In the preceding generation only this patient showed the family defects, his brothers and sisters having normal nails. The absence of the nails seems to cause little or no inconvenience. Previous to joining the army the patient had been a miner.

Indian Medical Gazette, Calcutta

March, 1918, **53**, No. 3

31 Susruta Samhita. W. D. Sutherland.—p. 81.
32 Hospital Building in India. R. Bryson.—p. 92.
33 Intramuscular Injections of Sodium Gynocardate in Leprosy. P. M. C. Peacock.—p. 95.
34 Natural Painless Childbirth. R. F. E. Austin.—p. 99.

Lancet, London

April 27, 1918, **1**, No. 4939

35 *Agglutination Method of Diagnosis in Triple Inoculated Individuals. H. M. Perry.—p. 593.
36 *Septic Phlebitis Due to Gunshot Wounds. H. Burrows.—p. 601.
37 *Cerebrospinal Fever: Notes on Ninety-Two Consecutive Cases. W. H. W. Attlee.—p. 602.
38 Trench Fever; Condition of Spleen and Leukocytes. D. L. Tate and J. W. McLeod.—p. 603.
39 Eyestrain. A. S. Cobbledick.—p. 604.
40 Restricted Diet of Sedentary Worker. A. D. Waller.—p. 611.
41 War Bread. E. I. Spriggs.—p. 613.

May 4, 1918, **1**, No. 4940

42 General Arteriosclerosis. O. K. Williamson.—p. 627.
43 Some Important Principles Which Determine the Reliability of Wassermann Reaction. J. McIntosh.—p. 630.
44 Wassermann Reaction; Its Use and Abuse. H. W. Bayly.—p. 632.
45 *Acriflavine and Proflavine: Their Use in Infected Gunshot Wounds. R. B. Carslaw and W. Templeton.—p. 634.
46 *Treatment by Brilliant Green of Recently Inflicted Gunshot Wounds. R. Massie.—p. 635.
47 Epidemic Stupor in Children. F. E. Batten and G. F. Still. —p. 636.

35. **Agglutination Method of Diagnosis.**—A large experience of the agglutination test in enteric fevers has made it evident to Perry that the method must be accorded a very prominent position in the laboratory diagnosis of this group of diseases. This is more especially the case since the introduction of preventive inoculation with the triple vaccine, as the isolation of the infecting organism from the blood, feces and urine has become more difficult. An attempt at making a diagnosis on agglutination results by any method other than a repeated and accurate titration of the agglutinin content of the serum, Perry says, does not appear feasible, and the use of standardized agglutinable cultures in this connection is obvious. Regarding the value of the test in all cases, Perry's opinion may be summarized as follows: 1. Positive results: Presuming that the technic is carried out by a skilled and careful worker, a change in titer of 100 or 200 per cent., manifesting itself in a regular curve and reaching its maximum between the sixteenth to the twenty-fourth day (in exceptional cases as late as the thirtieth day) justifies a diagnosis of active enteric infection. 2. Negative results: Cases which are clinically classified as belonging to the enteric group at present occur in which not only do repeated bacteriologic examinations fail to isolate an organism, but in which agglutination readings are so absolutely level or exhibit such slight variation that they afford no help in confirming the clinical diagnosis. Presuming that such are true cases of enteric infection, the failure to confirm the clinical opinion by agglutination findings may be due to one of the following causes: (*a*) Possibly, but not necessarily as a result of inoculation, the character of the infection may be so mild that agglutinins are produced to such slight extent as to cause a variation in titer which is not diagnostic. (*b*) The organism responsible for the infection may be a feeble producer of agglutinins. This particularly applies to paratyphoid A infections. (*c*) The fact that many of these cases have, in addition to receiving a typhoid vaccine, also been inoculated with 4 doses of T. A. B. (typhoid paratyphoid A paratyphoid B) vaccine, may in some way influence agglutinin production.

36. **Septic Phlebitis Due to Gunshot Wounds.**—In connection with the frequency of septic phlebitis consequent on gunshot wounds, Burrows says, one cannot help being struck by the large percentage of cases in which evidence of bronchopneumonia or pleurisy is found postmortem. Among 100 consecutive cases were 25 in which death had followed gunshot wounds of the limbs. Among 24 cases of leg wounds, 10 (41.6 per cent.) had phlebitis, 9 (37.5 per cent.) had bronchopneumonia. Pulmonary infarcts were found in four of the cases in which phlebitis was not observed, although the presence of the infarcts indicates that it was present. This observation bears out the main theme of this paper, that septic infection of veins is, so far as the base hospitals in France are concerned, the chief cause of mortality after gunshot wounds of the extremities. The proper treatment consists in tying the vein at some point above the level of the clot, dividing it below the ligature, and either removing a length of the vein with its infected contents or, if this be not possible, opening the vein freely to afford drainage. Spontaneous recovery may take place, especially if small veins alone are involved.

37. **Cerebrospinal Fever.**—In all but six of the 92 cases analyzed by Attlee was the meningococcus seen in the cerebrospinal fluid and in most cases it was cultivated. In these six the cerebrospinal fluid was turbid and contained many polymorphonuclear leukocytes, and one of the patients died with the usual postmortem appearances in the meninges of cerebrospinal fever. Three of the six were in the Lister series and three in the Pasteur. Thirty-three patients were treated with Lister serum. Of this number 18 recovered and 15 died. Of the recoveries two were completely deaf when evacuated and one was completely deaf in one ear. In none of the others was there any sign of permanent disability. Fifty-two patients were treated with Pasteur serum. Of this number 33 recovered and 19 died. None who recovered had any sign of permanent disability. Seven patients were treated with Lister and Pasteur serums combined. Of this number 3 recovered and 4 died. Of these patients, 4 began with Lister and were given Pasteur afterward, rather as a forlorn hope, and all died, the other 3 began with Pasteur and afterward had Lister owing to a temporary shortage of supply, and all recovered. Of the 54 patients who recovered, 21 were unconscious or delirious on admission and 33 sensible. Of the 38 who died, 23 were unconscious or delirious and 15 sensible. In every case the neck was definitely stiff, and in every patient who was not comatose or moribund on admission Kernig's sign was present at some time or other in the course of the illness. Twelve had rashes, 6 of these recovering and 6 dying. Twenty-two had one or more cranial nerves affected, strabismus being definitely noted in 18. Nystagmus has been quite common. Serum arthritis has been common, most often of the wrists and knees, once of the temporomaxillary joints. It has never needed any active surgical treatment. Urticarial and erythematous rashes have been frequently noted. Two had orchitis during convalescence. One had cyclitis beginning some time before admission on the fifth day of the disease. Only one symptom has been at all constant—headache, generally acute and of sudden onset. Only one sign has been of real help in diagnosis—stiffness of the neck. The greatest number of punctures in any one of the recoveries was 26, of those who died 25. The greatest total amount of fluid drawn off among the recoveries was 1,909 c.c., among those who died 2,127 c.c. The average amount of fluid per puncture in a recovery was 61 c.c., and in those who died, 54 c.c. The average total quantity of serum given each man who recovered was 180 c.c.

45. **Acriflavine and Proflavine.**—An investigation was undertaken by Carslaw and Templeton with the object of ascertaining whether the action of proflavine differed in any way from that of acriflavine. Since October, 1917, a large proportion of the infected gunshot wounds admitted to one hospital have been treated with acriflavine, and the clinical results have been observed in over sixty cases. Proflavine followed by eusol, was used in thirty cases (thirty-two wounds being treated). In all cases 1:2,000 solution in normal saline was used. The rapid improvement in the general condition of patients as shown by subsidence of temperature, pulse rate, etc., and rapid disappearance of pain and of inflammatory edema in the vicinity of wounds were very evident. Although the action of acriflavine and proflavine is very similar there can be no doubt that proflavine is slower. The improvement in the general condition of patients is not so rapid. The formation of the fibrinous membrane is not usually complete until the fifth, sixth, or seventh day in contrast with its presence on the third, fourth, or fifth day when acriflavine is used. Further, separation of membrane and attainment of a "clean" wound are also slightly delayed. The application of flavine to infected wounds does not render them bacteriologically sterile. Flavine is clearly antiseptic, not disinfectant, in action. There is a complete absence of evidence of damage to tissues when these salts are used in solution not stronger than 1:1,000. There is no necrosis of any of the exposed tissues. These salts are of undoubted value in controlling and preventing the spread of sepsis, as is shown by the rapid improvement in local and general conditions. This object having been gained, there is no advantage in continuing their use, as a condition is reached in which reparative changes are slow, although not by any means absent. Following on the substitution, after a few days, of a more stimulating antiseptic, for instance, eusol, a "clean" wound is obtained sooner than by any other form of treatment known to the authors. There is no evidence of any general toxic effect.

46. **Brilliant Green and Gunshot Wounds.**—Of a large number of cases treated with brilliant green information regarding their subsequent progress was obtained in only forty-six cases. The wounds had, without exception, been received from two to eight hours previous to treatment, and were all severe, with considerable tissue damage. No special type of case was selected, but it was not used in cases involving the peritoneal or pleural cavities, though there seems to be no reason why it should not be so used. The

solutions used were: (1) 1:1,000 brilliant green in normal saline; (2) 1:500 in normal saline; (3) 1:500 in 0.5 per cent. chloretone. Of the solutions No. 3 was preferred. It appeared to have a definitely analgesic effect, rendering dressing less painful. Wounds appeared to clean more quickly under the stronger solutions. No toxic symptoms were observed in any case. Results were recorded by independent observers and reported, for the most part, by means of Form M. R. C. 1, since it was necessary to evacuate early. When possible a complete excision of damaged tissue was carried out and foreign bodies were removed. In cases of compound fracture all fragments of bone having no periosteal attachment were removed. Damaged tissue is more deeply stained by brilliant green than is healthy tissue. It is useful in this respect when excising the tracks of missiles. All tissue, except skin, which holds the stain of 1:500 solution, should be excised. Brilliant green produces exuberant, but very vascular, bright red granulation. Noticeable features in cases treated with it are the absence of edema and inflammation round the wound and the rapidity with which sloughs and sequestra separate. It is painless in application and does not appear to interfere with the growth of epithelium. For these reasons it may be considered a useful antiseptic, and though it can by no means atone for an incomplete or faulty primary excision it may be used with advantage where anatomic conditions render complete primary excision impossible.

Medical Journal of Australia, Sydney

April 6, 1918, **1**, No. 14

48 Toxic Element in Goiter; Report of Cases. S. Pern.—p. 276.

April 13, 1918, **1**, No. 15

49 Operative Technic and After-Treatment of Senile Cataract Extraction. W. W. Hoare.—p. 297.
50 Prevention of Postanesthetic Vomiting. S. J. Cantor.—p. 299.

April 20, 1918, **1**, No. 16

51 Mycosis Fungoides. J. C. Verco.—p. 319.

National Medical Journal of China, Shanghai

March, 1918, **4**, No. 1

52 Skin Grafting. J. W. H. Chun.—p. 10.
53 Use of Disinfection and Isolation in Epidemics. S. M. Woo.—p. 16.
54 An Inquiry into Some Chinese Sexual Diseases. K. C. Wong.—p. 26.

Sei-I-Kwai Medical Journal, Tokyo

April, 1918, **37**, No. 4

55 Carbohydrate Metabolism in Brooding Hen's Egg. Formation of Sugar Out of Fat in Animal Body. K. Sakuragi.—p. 13.
56 Poisonousness of Immune Serum. T. Yamada.—p. 15.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 1, 1918, **42**, No. 8

57 *Cancer of the Lung. L. Galliard.—p. 201.
58 Secondary Infection of Bile Passages in Spirochete Jaundice. M. Garnier and J. Reilly.—p. 205.
59 *Malarial Hemiplegia. A. Léri—p. 210.
60 *Rachitis in Soldiers. A. Léri and Beck.—p. 215.
61 Isolated Lumbar Rheumatism. A. Léri.—p. 220.
62 Sulphur and Oil in Joint Disease. L. Bory.—p. 221.
63 Nature of Wassermann Reaction. L. Bory.—p. 223.
64 Joint Complications of Meningitis. H. Roger.—p. 225.
65 Acute Nephritis from Mercury. S. Livierato.—p. 229.

57. **Cancer of Lung.**—In Galliard's case the emaciation was explained by the roentgen rays as due to an extensive primary cancer in the lung. There was also partial pneumothorax. Netter has had a case in which the diagnosis was made from small cancerous masses in the sputum. An operation was done for purulent pleurisy and the man survived for a year, confirming the slow evolution of cancers of the lung.

59. **Malarial Hemiplegia.**—Léri reports five cases of hemiplegia developing early in malaria or several years after infection. The hemiplegia was slight and incomplete, and three of the five patients had aortitis. In the other two the hemiplegia had developed slowly and insidiously. The symptoms indicated that the gray matter had been touched. This hemiplegia and the aortitis should be sought for as the fitness for service is impaired by them.

60. **Rachitis in Soldiers.**—Léri and Beck state that in the last few months they have encountered no less than thirty *petits rachitiques* among the men in their service. They describe the various manifestations of this "minor rachitis" which is liable to be overlooked in examining men for the service. Most of such men have outgrown their disturbances from their rachitis, but some still feel the effects, and most of those they have seen had been sent for treatment on account of persisting pains. These pains were never violent, but the dull ache along segments of the limbs hindered or rendered impossible any long march or heavy work. Their whole attitude of body and mind is that of asthenia. Physically and mentally hypotrophic during childhood, they have never thrown this off completely. One man simply refused to get up, saying his bones ached, but no signs of sickness could be found. He did not seem to realize the gravity of his refusal; the idea of the guard-house did not occur to him. His only preoccupation was to be left in repose. These *petits rachitiques* must be regarded as fit for light duty only; they should be transferred to the auxiliary service.

Lyon Chirurgical

January-February, 1918, **15**, No. 1

66 War Wounds of Pleura and Lung. J. L. Roux-Berger.—p. 1.
67 *Primary Suture for War Wounds. R. Lemaitre.—p. 65.
68 *War Wounds of the Bladder. F. Cathelin.—p. 109.
69 *Repair of War Wounds of Deep Urethra. V. Rochet.—p. 137.
70 *Transfusion of Citrated Blood. J. Murard.—p. 147.
71 *Infusion of Locke's Fluid with Acacia. H. Delaunay.—p. 211.
72 So-Called Botryomycosis of War Wounds. P. Masson.—p. 230.
73 Actinomycosis and Botryomycosis in Morocco. M. Tussau.—p. 241.

67. **Primary Suture of War Wounds.**—Lemaitre reviews the experience of twenty-nine months of primary suture in 2,537 cases of war wounds in the various surgical units of the Ve Armée. He insists that there is no need to cut out more of the tissues in preparation for primary suture than with any other method. What is necessary is to get rid of all devitalized tissues and no more. Curved scissors are far superior to the bistoury, cutting not from the point but at a tangent from their convexity, thus avoiding the reflex contraction of fibrils before the advance of a bistoury. Muscle tissue does not regenerate and hence, he says, it should be economically excised, and never cut across unless absolutely necessary, as otherwise this severs, along with the muscle, the nerve and vessels. The hemostasis must be perfect, not only to prevent hematoma at any price, but to ensure the fixation of the germs under the action of the tincture of iodin. The wound is dried with gauze, tamponing it. As this is rapidly removed, the tissues are swabbed freely with tincture of iodin. Any excess is wiped up with another gauze sponge. When the drying has been properly done, the tissues look as if varnished. The iodin is not needed for small wounds with healthy tissues which do not require excision; and it is not required when the devitalized tissues are removed *en bloc*. He uses a 5 per cent. tincture of iodin in all his work, but would prefer some fluid for the fixation with which there was no fixation of the superficial cells of the wound. This entails a slight oozing, along the filiform drains, of a yellowish serous fluid, evident by the third or fourth day. It retards the healing of the wound by four or five days so that the threads cannot be safely removed until the twelfth or thirteenth day. On the other hand, it offers the advantages that the delayed primary suture can be postponed till the eighth or ninth day or even to the tenth or twelfth. With this iodin fixation we render harmless the germs that have been sown on the surface of the wounds during the operation. This put an end to suppuration in his service.

The only absolute contraindications to a primary suture are infection too far advanced for primary reunion, and so much disturbance in the circulation of blood and oxygen, general or local, as to favor the proliferation of anaerobes in case of suture. In his last series of 1,891 wounds, primary suture was applied in 79 per cent. and in his total cases the method proved successful in all but 0.84 per cent. Only four deaths occurred later, three from injury of the brain and one of the thorax. In the complete failures the streptococcus was always found and usually in those requiring the cutting of one or two stitches. He therefore accepts Tissier's dictum that the streptococcus is responsible for the failures, other things being equal, but the insignificant number of his

failures proves that the primary infection with the streptococcus does not inevitably doom the suture to failure. He relies on the clinical findings alone in deciding whether to open up again the sutured wound.

68. **War Wounds of the Bladder.**—Cathelin reports a series of twenty-nine war wounds of the bladder. Such injuries are grave but surgery and the retention catheter generally bring the men through. All his patients recovered except three, two succumbing to their extensive wounds and one dying later from tetanus. Immediate suprapubic cystostomy is necessary when the wound has involved the peritoneum or rectum or both, and when the anterior wall has been perforated. With a wound in the lower part of the bladder, draining perfectly, there is no need for immediate cystostomy unless fever and retention call for it. Under other conditions he prefers cystotomy; he deprecates further any attempt to suture the bladder wall at once unless the wound is intraperitoneal. He emphasizes the importance of having the men empty their bladders before making an assault and during heavy firing. The empty bladder is comparatively well protected by bones.

69. **Surgical Repair of Posterior Urethra.**—Rochet has successfully applied in four more cases of war wounds of the deeper urethra his method of mobilizing the prostate and bladder end of the urethra, and bringing it out by detaching the median perineal aponeurosis from its attachment to the ischium and pubis.

70. **Transfusion of Venous Blood.**—Murard gives an illustrated description of the technic for transfusion of citrated blood with the details of sixty cases, including several from his personal experience.

71. **Saline Infusion with Gum Acacia in Treatment of Shock.**—Delaunay has been using for some time Locke's solution plus 3 per cent. gum acacia in treatment of low blood pressure from hemorrhage and shock. He relates here confirmatory experiences on two rabbits and in three clinical cases. If the vasomotor nervous system has entirely collapsed, nothing seems to do any good, even although the loss of blood may have been comparatively insignificant. The gum acacia seems to act like the lacking proteins in the blood, raising and maintaining the blood pressure by its viscosity and osmotic pressure. But if there has been great loss of blood, it is necessary to precede the Locke by an infusion of physiologic saline or sugar solution to give the heart fluid to pump on, as the mucilaginous Locke solution is not administered in an amount over 150 c.c.

Presse Médicale, Paris

April 25, 1918, **26**, No. 24

74 *Elimination by the Kidneys. L. Ambard.—p. 217.
75 *Sensitized Autovaccines. L. Bazy and L. Cuvillier.—p. 219.
76 *Treatment of Scars on the Face. A. Poulard.—p. 221.

74. **Elimination by the Kidneys in Health and Disease.**—Ambard defines elimination by the kidneys as (1) elimination by effraction, as when a capillary vessel in the parenchyma ruptures; (2) elimination by diffusion, the kidney behaving like an inert membrane to certain substances, eliminating them by diffusion—the proportion in the urine being never higher than in the blood, and (3) elimination by secretion. The latter is of course the most important type of elimination, and it is a process governed by the laws of the secretory constants. (These laws were well explained by McLean in The Journal, Feb. 5, 1916, p. 415.) The most characteristic feature of secretion is concentration, that is, the presence of a substance in the secretion in larger amounts than in the blood from which the substance was taken. Certain substances in the blood have a threshold, while those not needed for the vital processes of the cells, such as urea, ammonia, iodin, salicylic acid and methylene blue have no threshold. Glucose and sodium chlorid, being substances needed by the cells, have a threshold, and the element acting on the kidney is the excess of the substance above its threshold. With a chlorid content in the blood of 6 per thousand, we need consider only, as affecting the kidneys, the excess of 0.20 per thousand above the threshold, if it happens to be 5.80 per thousand. In hemoglobinuria, the hemoglobin content of the urine is often much higher than in the blood, testifying to the fact that the secretion, and hence the hemoglobinuria, has to be studied as a secretion. Chabanier's recent research has established that the secretory constant for substances without a threshold is the same for each substance in the same person. For example, if the secretory constant for urea is 0.09 it will also be 0.09 for iodin, methylene blue and the other substances without a threshold. The substances in this group seem to be all solvents of fats, and they all share the same secretory constant for a given person. Hence functional tests of the kidneys with any of these substances will always elicit the identical response, and they can be used interchangeably for the functional tests.

On the other hand, the secretory constant of substances with a threshold is identical with those of substances without a threshold. The thresholds are higher and lower at different times, and this movement of the threshold can be studied with phlorizin, which lowers the threshold of glucose, as is evident by the ensuing glycosuria, and with theobromin, which lowers the threshold of chlorids, and the diuresis of chlorids increases in consequence. The matter of the threshold is thus a very important one in investigation of kidney functioning. The constants may be satisfactory, but if the threshold for chlorids is high, the man will excrete very little chlorids while he will excrete practically all his iodin.

In determining the urea content of the blood, the xanthydrol technic is accurate but it requires such precision in scales, etc., that it is not practicable outside of a laboratory. The hypobromite technic is inexact, but the errors in the blood findings and in the urine balance each other, so that the outcome is dependable if as much as 25 or 30 c.c. of blood is taken for the test, and if the fluids in the ureometer are thoroughly blended. A rubber cot on the finger plugging the tube renders much more convenient this thorough stirring up which has to be done ten or twelve times in the course of fifteen minutes to complete the chemical reaction. The day of the test nothing but a small cup of coffee or tea and one small slice of bread should be taken for breakfast, and the urine for the test tube should be taken between 9 and noon. The bladder should be emptied completely and then again after an interval of an hour or hour and a half if the urine is drawn with a catheter; if not, after two hours.

Among the practical deductions from the ureosecretory constant is that the identity of the secretory constant may afford indications for administration of certain drugs. For example, if the constant with iodin proves to be 0.21, then we know that this person will retain in his blood three times as much iodin as normal. The varying constant may show wide variations in the quantity of sugar excreted in the urine in the glycosuria of diabetes.

Another practical point is the close correlation between the constant and the maximal concentrations. Good concentrating power goes with a good constant. Legueu regards the light thus thrown on the maximal concentration as the most instructive feature of the secretory constants. With a poor concentrating capacity, the slightest oliguria may entail such retention of nitrogen as to prove fatal in a few days. Another practical deduction from the ureosecretory constant is in respect to the evolution of uremia-inducing nephritis. With azotemia of less than 0.50 gm., the deficit in functioning kidney tissue may range from 0 to 80 per cent.; with azotemia of 0.50 to 1 gm., the functional deficit is between 40 and 90 per cent.; with azotemia of from 1 to 2 gm., the deficit is from 80 to 98 per cent. and it is useless in this case to waste time on determining the ureosecretory constant, as prolonged azotemia of 2 gm. dooms the subject to a more or less speedy death. The ureosecretory constant is thus most instructive with azotemia between 0.60 and 0.70, and these form the great majority of cases of nephritis; at this stage the disease is still more or less curable.

75. **Sensitized Autovaccines.**—Bazy and Cuvillier combine the advantages of serotherapy with those of vaccine therapy by sensitizing the vaccine with a polyvalent serum. The immunity conferred develops early, as with typical serotherapy, while it is durable, as with typical vaccine therapy. Their method is to add an emulsion of forty-eight hours'

cultures on gelose to the tube containing the polyvalent prepared serum. The tube is incubated at 37 C. The microbes float on top of the serum until they become agglutinated, when the clumps drop down through the serum and finally lie on the bottom of the tube in a compact mass. The physiologic solution used for the emulsion then clears up and becomes limpid. The fluid is then decanted and the clot of microbes is rinsed carefully to remove all excess of the polyvalent serum. The small viscid mass formed by the microbes thus sensitized by the serum is emulsified in a little physiologic solution so that the emulsion looks like a twenty-four hours' bouillon culture of typhoid bacilli. This opalescent appearance corresponds to about sixty or eighty millions microbes per cubic centimeter. The vaccine is heated three times for an hour to 56 C. The dose is 1 c.c., injected subcutaneously in the thigh, usually repeated at intervals of five days up to three, four or five inoculations. These sensitized vaccines seem to be borne admirably well. Their action has been certain, rapid, harmless and durable. Among the typical cases related to show the efficacy of these sensitized autovaccines is the case of a nurse who had had eighty-three furuncles in the course of four months rebellious to all other measures. After the first injection of the vaccine three large furuncles faded away in less than two days and others starting were aborted. Great improvement in the much depressed general health followed the second inoculation, and the furunculosis subsided completely. Six inoculations were given in this case in the course of three weeks The microbes in this case were a staphylococcus and a pseudodiphtheria bacillus which has been found so common in war wounds that it is used in producing the polyvalent serum Three months to a day after the last injection, two furuncles made their appearance, suggesting that this is the limit of the immunity. As there was some of her autovaccine still on hand, four injections were made, and the recurring furunculosis was aborted. Their success suggests a possible new era for serotherapy made without the heterogenous albumins of horse serum as the carriers of the antibodies.

76. **Treatment of Scars on the Face.**—Poulard makes a deep elliptical incision around the disfiguring scar and then strips off the epidermis over the scar but otherwise does not molest it. The skin is then mobilized around and drawn together across the scar tissue. It is then sutured in a straight line, leaving merely a linear scar. There is no depression or sagging as the cicatricial tissue below acts as a support, while there is no chance for rousing old infection as when the scar tissue is excised.

Revue de Chirurgie, Paris

May-June, 1917, **36**, No. 5-6. Published December, 1917

77 *Projectiles Left in the Mediastinum. R. Le Fort.—p. 495. To be continued.
78 *Functional Value of Stumps. J. Amar.—p. 613.
79 *Projectiles in Neck and Head. M. Patel and M. Arcelin.—p. 640.
80 *Laws of Healing of Wounds in the Skin. A. Lumière.—p. 656.
81 *War Wounds of the Spleen. J. Fiolle.—p. 679.

77. **Fate of Projectiles Left in the Mediastinum.**—This instalment of Le Fort's article fills 117 pages. It is based on thirty-seven cases of foreign bodies in the mediastinum, with healed point of entry, thirty cases of operations on regions contiguous to the mediastinum, and on a number of operations on the mediastinum for reasons other than the presence of a projectile. Most of the wounded with a projectile left in the tissues experience annoying symptoms from its presence, mostly dyspnea on effort, which debars them from work. By observing a number of minor points, which he describes, the foreign bodies can be sought and removed with ease and without harm. No operation on the mediastinum should be considered without roentgen study of the case with all the mechanical aids possible. The access to the mediastinum should be large and ample, and as direct as possible, with integral repair of the wound.

78. **Functional Value of Stumps.**—Amar is director of the physiology of work of the National Conservatory of Arts and Trades, and he emphasizes that the physiologist should be called on to work with the surgeon and the orthopedist, as the aim after an amputation is not so much to restore anatomic conditions as to restore a partially or totally abolished function. The prosthesis should realize the movement with the minimum of fatigue, and the modern methods of physiologic experimentation permit exact valuation of this. The functional capacity of the stump can be thus estimated and classified. We thus appreciate that there are twenty-two different types of mutilations, and the compensating forces aid in restoration of function. The uncompensated functional incapacity is the base on which the pension for disability should be calculated, and the physiologic tests will reveal and evaluate it. They will also reveal the defects of the artificial limb: lack of proper proportions and principles in the making of prosthesis, hence inertia and fatigue; lack of stability and solid anatomic, plastic fitting of the prothesis, hence awkward use and a feeling of insecurity. Most prostheses break at the end of the stump or near the joints. The whole question of artificial limbs needs to be gone over again, working out the chart for each wounded man by the physiologic tests, analyzing the movements by means of moving pictures to calculate the minimal weight of the segments of the artificial limb, the angles of flexion, and the physiologic center of the joint. He has devised dynamographic apparatus for testing the stump of arm and leg, and gives an illustrated description of their application and analysis of the findings.

79. **Prevertebral Projectiles.**—Patel and Arcelin describe the important lessons learned from their experience in extracting projectiles in front of the spine in neck and head in six cases They had only one mishap; the multiple adhesions in this case led to injury of the internal jugular vein in trying to detach the vessel. The hemorrhage was arrested at once by tamponing the lateral sinus. All the patients healed by primary intention.

80. **The Laws of the Healing of Wounds.**—Lumière's experimental and clinical research has apparently demonstrated that large noninfected skin wounds heal according to certain mathematical laws. The healing proceeds at the same rate at the end as at the beginning. The time required is proportional to the size of the area that is to be healed. These laws and the rate of repair seem to apply indiscriminately to different animals of the same species of about the same age and state of health. By heeding these laws we get a standard for comparison of the effects of different methods of treatment, different antiseptics, dressings, etc.

81. **War Wounds of the Spleen.**—Fiolle remarks that the proper treatment of war wounds of the spleen is still open to question. He has found records of forty-four cases, and comments on the usual lack of symptoms at first, or there may be symptoms suggesting peritonitis from perforation. There may be nothing to suggest internal hemorrhage at first, strange to say. It does not become apparent until a few hours or days later, and then usually proves fatal. The hemorrhage occurs early but no symptoms develop from it for a long time. He knows of only one case of spontaneous healing of a bullet wound in the spleen. When symptoms become manifest, then conditions are so grave they generally prove fatal, with a peculiarly rapid and malignant course. Splenectomy is the preferable treatment; five recovered of the seven men treated with splenectomy, and other causes were responsible for the two fatalities. An illustrated discussion of the best mode of access is supplemented by the details of the forty-four cases mentioned.

Policlinico, Rome

April 28, 1918, **25**, No. 17

82 *Divulsion in Treatment of Fistula. B. Masci.—p. 389.
83 *Cystic Point as Sign of Typhoid. G. Genoese.—p. 391.
84 Rhabditis Pellio in Nephritis Urine. M. C. Francaviglia.—p. 394.
85 Freaks of Projectiles. E. Bussa-Lay.—p. 397.

82. **Divulsion in Treatment of Anal Fistula.**—Masci dilated the anus in treatment of fissures and found that this cured not only the fissures but also coexistent anal fistula in his three cases of this kind. The fistula is maintained by the septic environment, the movements to which it is subjected, and the inability of voiding its contents. Divulsion of the anus does away with all three of these factors. He gave first

a purge, then cleansed the region thoroughly, and the divulsion of the anal sphincter with the fingers was followed by introduction of a large tube wrapped in gauze. Opium was given for five days to leave the anus at rest. Then an oil purge was given, and then opium for three days. By the tenth day clinically normal conditions had been restored. Of course tuberculous fistulas would not be amenable to this treatment, nor when there are complications or extensive destructive lesions, but the cure was prompt and complete in his three cases, including one in which the fistula had developed in a suppurating hemorrhoid. They were all in the sphincter and involved the mucosa and the subcutaneous tissue.

83. **The Painful Cystic Point in Typhoid in Children.**—Genoese found the cystic point painful in all his 30 typhoid cases in children while no pain could be elicited at this point in 24 cases of lobar pneumonia, 40 of bronchopneumonia, 18 of measles, 6 of malaria, 16 each of tuberculous meningitis and peritonitis, 27 of gastroenteritis, 32 of rachitis and 18 of acute articular rheumatism. The pain at the cystic duct was found during the first week of the typhoid in 18, and in the others from the eighth to the eleventh day. The painfulness was not proportional to the gravity of the typhoid, and it gradually subsided as the disease approached convalescence, but kept high to the end in the fatal cases. The liver was enlarged in all and the spleen was palpable. The infection of the liver and bile passages does not seem to be due to ascending infection but to the elimination through the vessels in the liver of the microbes contained in the blood. The liver and the biliary passages hypertrophy under the strain of this task of destroying the toxins and bacteria brought to the liver in the blood. There is probably slight cholecystitis, and this explains the lively pain on pressure of the cystic duct. He gave hexamethylenamin to ten of the children; it did not seem to modify the general symptoms, but it had a pronounced effect on the cystic point, rendering it much less sensitive. In one child, under 2 gm. a day, no further pain at this point could be elicited although it had been marked before. This modification of the cystic point pain confirms the assumption that it is the result of inflammation in the gallbladder. As this inflammation subsides under the drug, the cystic duct ceases to be sensitive. The cystic point is sought with the patient seated. It is located on a line joining the nipple and the tenth costal cartilage.

Riforma Medica, Naples

April 13, 1918, **34**, No. 15

86 *Roentgen Rays and Formation of Callus. F. P. Sgobbo.—p. 282.
87 Prophylaxis of Tuberculosis in Children. Cicconardi.—p. 288.

86. **Influence of Roentgen Rays on Callus Production.**—Sgobbo states that several Italian surgeons had noticed that callus did not form as usual in certain knee joint and other fractures that had been examined repeatedly with the roentgen rays. Sgobbo then undertook a series of experiments on dogs, as he describes in detail. The findings confirmed his suspicion that the roentgen rays have a depressing influence on the development of bone callus. With a dose of 15 H units, especially if repeated, the production of callus may be inhibited or it may assume merely a rudimentary form. Even with 5 H units, the injurious action on the callus was pronounced.

Revista de Medicina y Cirugia Practicas, Madrid

March 21, 1918, **118**, No. 1499

88 *Cancer on Bird's Claw. F. M. Urra.—p. 321.

March 28, 1918, **118**, No. 1500

89 Case of Rat-Bite Fever in Mexico. A. Matienzo.—p. 353.

88. **Cancer on Bird's Claw.**—The cancer seemed to resemble in every microscopic respect the epithelioma of man, but it had developed on the thumb claw of a lark. The claw had enlarged to a pear-shaped tumor nearly ten times the natural diameter.

Semana Medica, Buenos Aires

Feb. 14, 1918, **25**, No. 7

90 *Vacuum Extraction of Cataract. A. J. Manes.—p. 173.
91 Technic for Artificial Pneumothorax. E. Debenedetti.—p. 175.
92 *Treatment of Rabies at Buenos Aires. C. R. Mejia.—p. 177.
93 Increase in Tuberculosis Mortality. E. R. Coni.—p. 181.
94 Antityphoid Vaccine. A. Salvat y Navarro.—p. 182.
95 Errors in Nutrition and Reproduction. Austregesilo.—p. 185.

Feb. 21, 1918, **25**, No. 8

96 *North American Surgery in 1917. R. Finochietto.—p. 201.
97 Hygiene of the Eyes. P. B. Ferro.—p. 207.
98 *Welfare Work at Buenos Aires. E. R. Coni.—p. 211.
99 Crystal Theory of Cell Life; Plasmogenesis. V. Delfino.—p. 217.
100 Color Reactions with Cryogenin. J. A. Sanchez.—p. 219.

90. **Vacuum Cataract Extraction.**—Barraquer's method of extraction of the cataract by vacuum suction has been described in THE JOURNAL, June 9, 1917, p. 1789.

92. **Rabies at Buenos Aires.**—Summarized in Buenos Aires Letter, page 1246.

96. **Impressions of Surgery in the United States.**—Finochietto remarks that the general surgeon on a trip to North America is most impressed by the surgery of nerves and of goiters, the anesthesia, and the nursing, and he pays a graceful tribute to the extreme *amabilidad de los cirujanos Yankees* to the visitor. He describes in detail his impressions of the work at various clinics, specifying the outcome in the different cases.

98. **Athletics and Social Insurance at Buenos Aires.**—This is the twenty-ninth chapter of Coni's serial work, "Buenos Aires caritativo y previsor."

Hygiea, Stockholm

April 15, 1918, **80**, No. 7

101 *Agglutination in the Blood. R. Fåhræus.—p. 369.

101. **Agglutination of the Blood Corpuscles as Sign of Pregnancy.**—Fåhræus remarks that the dictum in recent textbooks to the effect that the blood in pregnancy shows no specific modifications from normal will have to be amended, as his research has shown a marked change in the agglutinating properties of the red corpuscles. Citrated blood from pregnant women showed a much more pronounced and more rapid sedimentation of the red corpuscles than the citrated blood from nonpregnant women. Sedimentation proceeds abnormally fast in the blood of the pregnant and in the blood of women in general compared to men. He records the height of the sediment thrown down in one hour in 103 persons. In the thirty-seven nonpregnant women it never reached above the 11 mm. mark; in the fifteen men tested, it never reached even 5 mm. but in all but two of the pregnant women it reached a height of from 15 to over 80 mm. the sedimentation growing more and more rapid with the progress of the pregnancy. He found further that this accelerated sedimentation occurs as a constant symptom of certain pathologic conditions; and hence, with the possibility of these, its significance as a sign of pregnancy must be carefully weighed. As he expresses the phenomenon, the stability of the suspension of blood corpuscles in the blood is more pronounced in men than in women, and the stability is materially reduced in pregnancy. This seems to be a kind of defensive reaction, and the strength of the reaction can be measured by the amount of sediment thrown down in a given period of time.

He gives an illustration of a fine glass graduated tube, inside a large glass tube filled with water at body temperature, in which the sedimentation can be watched. He also describes a means to apply the sedimentation test to the living subject. A vein in the forearm is selected that does not show branches and a rubber tube is fastened around the arm above and below a stretch of about 10 cm. of the vein, thus shutting off the circulation, and the arm is held vertical for fifteen minutes. At the end of this time, the vein is punctured just below the upper constricting tube. In a pregnant woman, nothing but plasma will be found in the vein at this point, the corpuscles having settled to the bottom of the vein segment. In other women and in men, the puncture shows whole blood, as usual. The settling down of the corpuscles, leaving only plasma at the top, is evident even without the puncture by the change in the tint of the vein at the upper end of the segment. His findings seem to parallel the Abderhalden defensive reactions, and sustain Abderhalden's theory concerning them.